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Good Cores and Low Costs are always obtained by using the BAKER CABLE TOOL CORE BARREL

AFFIDAVIT

UNITED STATES OF AMERICA :
STATE OF PENNSYLVANIA :
COUNTY OF McKEAN : SS

Before me, a Notary Public in and for the said County of McKean and Commonwealth of Pennsylvania, personally appeared [redacted], President of the [redacted] Petroleum Company of [redacted], New York, who, being duly sworn according to law, deposes and saith that the said [redacted] Petroleum Company of [redacted], New York, owns and possesses a No. 6 Baker Cable Tool Core Barrel, to be run inside of 6¼", 13# Casing, and that this Core Barrel was purchased in the year 1927, A.D., in the State of Oklahoma where it was used but very little until the year 1929 A. D., when it was brought to the aforementioned Company's eastern properties located near [redacted] McKean County, Pennsylvania, and in that year the paying oil stratum, known as the Bradford sand, was cored in thirteen (13) wells, or a total of six hundred fifty (650) feet cored.

He further deposes and saith that the cost of this coring amounted to Eight Dollars ($8.00) per foot, which included the cost of laboratory analyses of the various necessary sand samples, wear and tear of the equipment, the dressing and reconditioning of the shoes, the contractor's labor at Thirty Dollars ($30.00) for each twelve (12) hours, and depreciation and interest on the investment covering the equipment.

He further deposes and saith that the original equipment consisted of the standard Core Barrel, one (1) inner Barrel and nine (9) shoes. Replacements have consisted of one (1) outside Drill Barrel Tube only, two (2) inner or Core Tubes, and some trimmer shoes.

He further deposes and saith that since the aforementioned outfit was purchased, it has cored a total of twelve hundred (1200) feet of formations and has been found to be very efficient and of a low cost in operation and that the character of the cores obtained has been entirely satisfactory and that he is well pleased with the Core Barrel and the results obtained therefrom, further the deponent saith naught.

Sworn and Subscribed to before me this 22nd day of November, A.D.1934.

[redacted]
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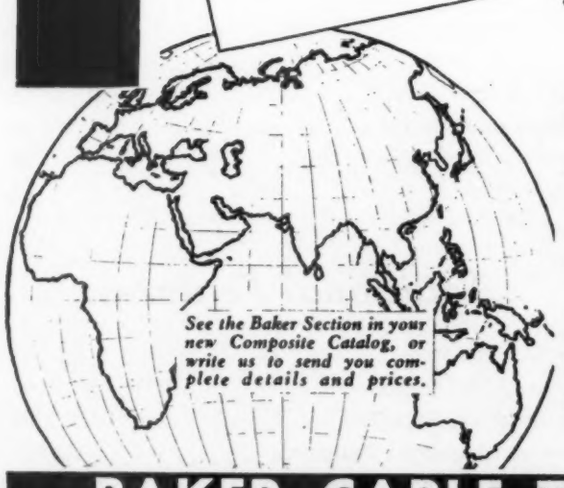

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Record Output in Prospect For February

CRUDE oil production in February will exceed the record-breaking output of January according to reports from several states as the new month started. The enlarged output is not due to the increases in crude price schedules announced last week applying to pools in the Middle West, Southwest and Rocky Mountains. The plans to increase output in February were in most cases made known before the higher crude prices were announced.

The Texas Railroad Commission has authorized a production for February of 1,329,478 barrels daily, which is 44,577 barrels more than the January 19 allowable and 126,078 barrels more than was recommended by the Bureau of Mines for February. There were nominations for Texas crude oil in excess of 1,500,000 barrels daily at the recent Austin hearing and it assumed that producers will make available to buyers the oil authorized under the February allowable. The fact that crude prices were advanced generally in Texas despite this high allowable has been interpreted by commission officials to mean that the crude situation is healthy.

Kansas has ignored the bureau's recommendation of 170,000 barrels daily for February by fixing its state allowable at 187,918 barrels. This promises a new peak for Kansas output.

Oklahoma will stay within the recommendation of 581,900 barrels daily which is 8,800 barrels higher than in January. Its February output probably will be higher than in January. There are no indications that February output of Louisiana and California will be less than in January. This record production for crude now in prospect is justified by purchasers on a basis of refinery requirements for all grades of fuels and prospects of a substantial increase in gasoline demand. Stocks of the latter continue to increase at a rate in excess of 200,000 barrels daily.

Production 3,180,220

Decrease 17,267

It was apparent the first of the week that refiners and marketers will attempt to offset the higher crude costs with advances in wholesale and retail prices. Bunker C fuel prices were advanced along the coast from the Gulf to Maine and general advances in tankcar and station prices on gasoline also were reported in several eastern and southeastern states.

There were several important discoveries in the Mid-Continent and Gulf Coast with a new shallow field in Marion County, Illinois. The attention of many operators centered on a possible extension to the Rodessa area in Marion County, Texas. It is anticipated that higher crude prices will stimulate exploratory work in several states and result in additional drilling in many of the proven areas. Some of the old stripper areas will become active.

Daily Average Production for Week

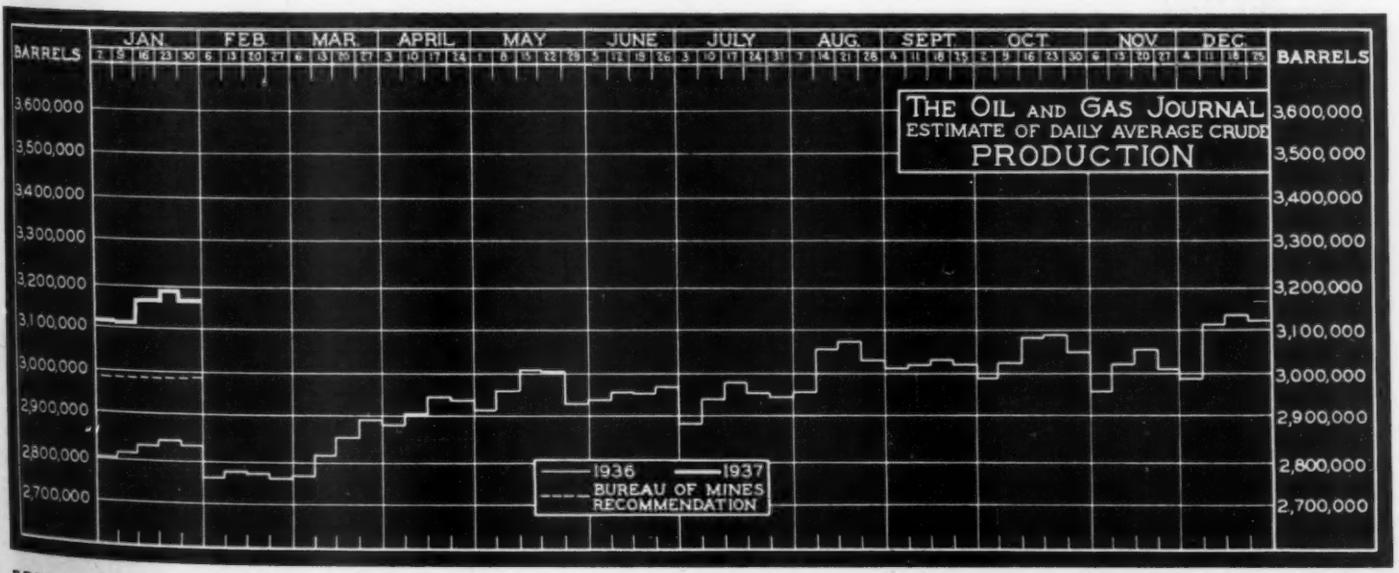
	Jan. 30, 1937	Bur. Mines Jan. est.	Jan. state allowable	Jan. 23, 1937
Oklahoma City	139,175	.....	.....	155,975
Seminole-St. Louis	82,400	.....	.....	89,800
Remainder of state	366,175	.....	.....	358,500
Total Oklahoma	587,750	573,100	573,100	604,275
East Texas	452,350	.....	.....	451,798
West Texas	171,196	.....	.....	170,694
North Central Texas	98,295	.....	.....	98,250
Texas Panhandle	74,798	.....	.....	73,496
East Central Texas	106,000	.....	.....	104,448
Gulf Coast Texas	278,289	.....	.....	276,298
Southwest Texas	90,200	.....	.....	89,850
Total Texas	1,271,128	1,176,000	1,248,907	1,264,834
North Louisiana	86,375	.....	.....	76,785
Gulf Coast—Louisiana	165,149	.....	.....	168,100
Total Louisiana	251,524	216,300	240,650	244,885
Santa Fe Springs	44,750	.....	.....	43,300
Long Beach	62,300	.....	.....	62,500
Kettleman Hills	78,400	.....	.....	78,000
Remainder of state	397,950	.....	.....	402,200
Total California	583,400	559,900	*551,100	586,000
Kansas	173,625	165,600	175,880	178,875
Arkansas	23,045	27,300	.....	27,360
Eastern Fields	114,100	112,200	.....	115,500
Michigan	28,978	29,200	.....	29,088
Southeastern New Mexico	79,630	79,180	91,755	79,030
Rocky Mountain area	67,040	59,620	.....	67,640
Total United States	3,180,220	2,998,400	.....	3,197,487

*Recommendation of Central Committee of California Oil Producers.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATES)

Week ending January 16, 1937	286,044,000
Week ending January 9, 1937	286,912,000
Week ending January 18, 1936	298,136,000



SPARKS FROM THE NEWS

Last week's crude advances place schedules at highest levels since 1930, but they are still less than 70 per cent of 1926 average.

Inland water transportation loses some of its attractiveness when tanks instead of barges float down the river in the flood areas.

A crude price advance in the face of refusal to restrict output is interpreted in Texas as showing that you can eat your cake and have it too.

Marion counties come to the front. A shallow test opens a new field in Marion County, Illinois, and a deep test looks promising in Marion County, Texas.

If refiners keep on studying lubrication problem they will know more about hypoid gears than the automobile manufacturers who invented them.

Oklahoma decides to play safe and stay within the recommendations of the Bureau of Mines for February.

Airplanes are still unimportant in total motor demand but a change in the future is indicated in fact that percentage gain in output exceeds that of automobiles.

Butane, once the industry's lowest priced material, either gas or liquid, is becoming one of its most eagerly sought products.

Survey of motor fuel specifications indicates that "octane race" is still under way, but at slower pace.

An observer wants an up-to-the-minute analysis of the current statistical situation which takes into consideration higher crude prices, floods, peak oil output, mounting gasoline stocks, automobile strikes, new reserves and reductions in crude inventories.

The 5-cent advance in bunker fuel prices at Gulf Coast and East Coast terminal points places prices at highest levels in several years.

Gasoline consumption is not a complete loss in the flooded area with seaplanes operating on 24-hour schedules. Rehabilitation programs probably will increase the motor fuel demands.

EPIDEMIC SPREADS TO MOSCOW

Dozens of retail stations springing up in leading cities in the U.S.S.R. The signs say "Benzine Sold." Women serve as attendants at many of the stations.—(Sovfoto)

East Coast refiners lead the way in adjusting wholesale and retail prices to higher crude schedules by advancing gasoline quotations one-half cent.

Rodessa joins the select class of fields by producing in excess of 100,000 barrels daily. There are only two others.

Quality of Motor Fuels Is Now Higher Than Ever Before

By W. T. ZIEGENHAIN

After three years of comparatively little change in quality, motor fuels being sold throughout the central portion of the United States are now shown to be definitely more volatile and to have a lesser tendency to knock than ever before. And they have attained these improvements without showing a tendency to cause vapor locking. In fact, the average vapor pressures on the regular and premium grades are approximately 1 pound lower than one year ago. These data and conclusions are derived from The Oil and Gas Journal's eleventh annual survey of motor fuel quality.

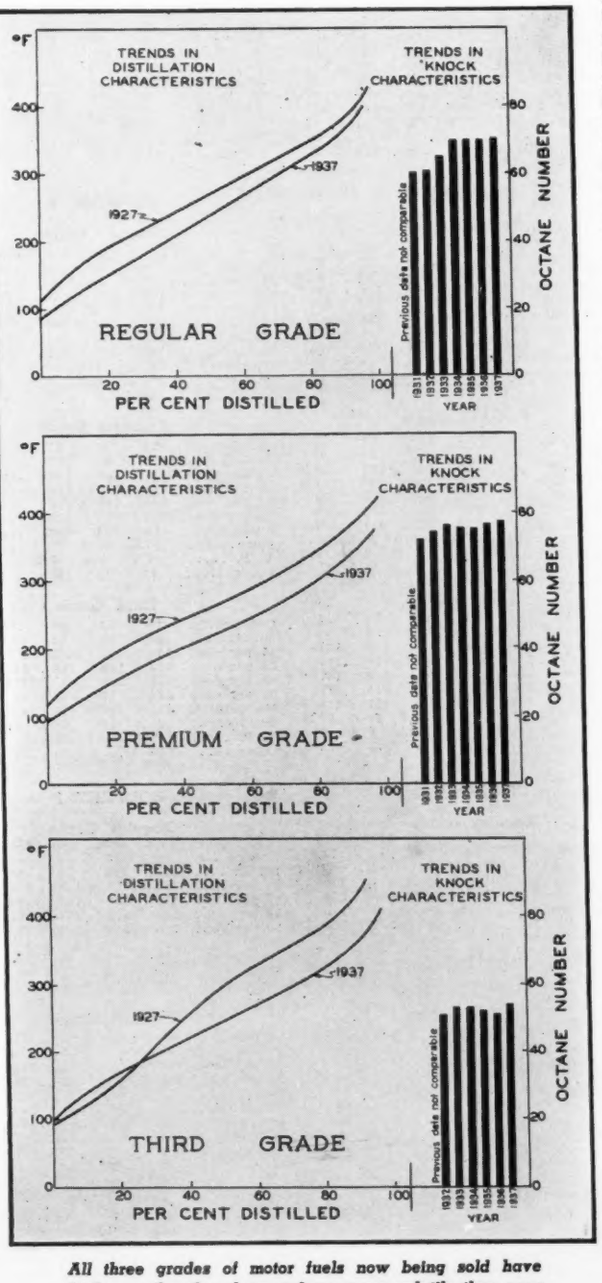
BASIS FOR SURVEY

As a basis for these conclusions, the results of tests made on representative samples of gasoline collected from a large number of companies about the first of each year have been used. In each of the years 1927, 1928, 1929 and 1930, 34 samples of gasoline were purchased from the same company-owned filling stations in Tulsa. These samples came from stations owned and operated by the Phillips Petroleum Co.; The Texas Co.; Skelly Oil Co.; Pierce Petroleum Corp.; Magnolia Petroleum Corp.; Barnsdall Oil Co.; Sun Oil Co.; Shell Petroleum Corp.; Transcontinental Oil Co.; Cities Service Oil Co.; Sinclair Refining Co.; Continental Oil Co.; Mid-Continent Petroleum Corp.; Wilcox Oil & Gas Co.; Independent Oil & Refining Co.; Tidal Refining Co.; National Refining Co. and the Southland Gasoline Co. They were tested by the same laboratory each year and great care was taken in every detail, both with the respect to obtaining the samples and to testing the samples, so that the results of the survey be comparable year after year.

EXPAND SURVEY

Starting in 1931, the basis for the annual survey was expanded, but a plan was adopted which permits making a rather definite comparison with all previous data. About the first of each year since 1931, gasoline samples have been purchased from company-owned stations at scattered points, namely, from stations located in Cleveland, Chicago, Kansas City, Fort Worth and Tulsa. These samples have been purchased from the company-owned stations bearing the names of the Standard Oil Co. of Ohio; Skelly Oil Co.; Cities Service Oil Co.; Continental Oil Co.; Barnsdall Refining Co.; Mid-Continent Petroleum Corp.; Phillips Petroleum Co.; Magnolia Petroleum Corp.; Gulf Oil Corp.; The Texas Co. and the Standard Oil Co. (Indiana). From each of these stations samples of the regular grade, premium grade and third grade gasolines were purchased. Each year these have been tested in the same refinery laboratory and extreme care has been taken to make sure that all data is comparable from year to year.

From these brief statements it becomes apparent that the survey is limited to the central states and does not taken into account the quality of gasolines sold on either the Atlantic or Pacific Coast territories. However, from time to time data have been gathered to indicate that what changes come about in the territory covered by The Oil and Gas Journal's survey are also applicable to changes made in the quality of gasolines sold in other areas. It is for this reason that the conclusion may be drawn that what is revealed in The Oil and Gas Journal's annual survey is typical of motor fuels sold over the entire United States. This has been particularly true within the past five years and promises to be equally or more applicable in years to come, for there is a decided tendency for motor fuel to become standardized, and as the quality of gasoline becomes more and more a function of the process followed in its manufacture and less a function of the nature of the crude oil from which it happens to be made, the quality of gasolines will tend to become standardized throughout the country.



All three grades of motor fuels now being sold have higher antiknock values and are more volatile than ever before. The trend in the octane value and the volatility of each grade is indicated here as a graphic presentation of the results of The Oil and Gas Journal's Eleventh Annual Motor Fuel Survey. Data shown on following page

VOLATILITY

This, of course, does not mean that the gasoline sold in Miami, Fla., on January 1, for example, will be of the same quality as that sold in Minneapolis, Minn., on that date, but it does mean that the gasoline sold in Miami when the temperature is 60° F. is now more nearly what it is in Minneapolis when the temperature is 60° F. there. Refining companies generally are observing a rigid program of blending to enable them to supply the most desirable motor fuel for a given atmospheric condition, and this has been the guiding factor in standardizing motor fuels from the standpoint of volatility. Because atmospheric temperature plays such an important part, the survey is made at about the same time each year and January 1 was chosen as offering the most representative date for winter motor fuels.

If samples had been obtained from these same stations six months later there is little question but that the average volatility would have been lower, the average vapor pressure would have been lower and the octane value would probably have been slightly higher.

CHANGE WITH WEATHER

In view of volatility changing with the weather, it also becomes obvious that any severely cold weather on January 1 of one year will cause refiners to supply a more volatile fuel than on the same date when the weather generally is moderate. For this reason, there are chances for inconsistent individual tests at the same city taken over a period of years.

In compiling these data, a sufficient number of samples were collected and from a sufficiently large number of scattered points to equalize these factors year after year and it is felt that the accompanying data will permit one to make conclusive but general statements regarding motor fuel trends with respect to volatility.

With this understanding, attention is called to the accompanying graphs. Here the volatility of the average regular grade, the premium grade and the third grade is shown for 1927 and also 1937. In this period

Tests on Three Grades of Gasoline Sold by the Same Twelve Refining Companies

COMPANY A

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	65	70	70	70	70
Initial	90	90	91	89	86
10 per cent	130	130	115	128	118
20 per cent	156	160	135	157	142
50 per cent	234	237	216	231	224
90 per cent	352	348	355	351	358
Endpoint .	393	394	417	405	405
Recovery .	96.0	96.0	96.0	96.0	96.0
V. P.	10.7	9.7	11.2	10.4	10.5
Color	C	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	77	77	76	76	79
Initial	90	92	88	100	100
10 per cent	136	136	124	120	133
20 per cent	169	162	148	141	145
50 per cent	260	236	230	221	182
90 per cent	360	342	356	317	288
Endpoint .	394	394	402	364	359
Recovery .	96.0	97.0	97.0	97.0	96.5
V. P.	10.4	8.9	12.3	10.7	8.9
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	54	52	50	49	52
Initial	90	98	104	104	96
10 per cent	137	150	162	166	140
20 per cent	164	188	194	194	170
50 per cent	257	265	270	256	252
90 per cent	366	376	380	354	376
Endpoint .	409	428	426	396	419
Recovery .	98.0	97.5	98.0	97.0	97.0
V. P.	7.2	7.5	6.6	6.9	7.2
Color	C	30	22	17	24

COMPANY B

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	66	67	70	70	70
Initial	101	90	87	85	90
10 per cent	160	132	121	120	120
20 per cent	190	162	143	146	148
50 per cent	262	241	225	230	230
90 per cent	370	360	357	363	360
Endpoint .	410	406	398	404	405
Recovery .	98.0	96.0	96.5	96.0	97.0
V. P.	9.2	10.0	10.5	11.3	9.2
Color	25	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	72	70	76	77	76
Initial	94	90	91	86	86
10 per cent	136	128	119	124	120
20 per cent	156	164	141	148	143
50 per cent	218	224	208	230	218
90 per cent	322	326	327	350	335
Endpoint .	382	382	378	386	382
Recovery .	97.0	97.0	97.0	96.0	97.0
V. P.	10.2	9.4	9.8	12.4	10.0
Color	...	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	54	58	52	56	54
Initial	104	92	92	94	92
10 per cent	156	146	138	148	141
20 per cent	186	176	167	182	181
50 per cent	260	242	243	258	260
90 per cent	386	345	363	377	365
Endpoint .	427	420	421	420	410
Recovery .	97.0	97.0	96.5	95.0	97.0
V. P.	7.5	9.4	9.2	10.8	8.0
Color	C	C	30	30	26

COMPANY C

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	65	66	70	68	70
Initial	100	94	94	92	95
10 per cent	145	138	131	137	124
20 per cent	176	162	155	167	148
50 per cent	258	244	233	247	236
90 per cent	373	368	365	365	361
Endpoint .	417	408	407	424	402
Recovery .	96.0	97.5	97.0	96.5	96.0
V. P.	10.0	8.9	7.5	9.4	8.3
Color	C	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	78	76	75	76	76
Initial	93	90	100	90	95
10 per cent	130	137	138	124	130
20 per cent	154	170	156	149	157
50 per cent	217	242	232	233	240
90 per cent	326	356	360	365	360
Endpoint .	382	394	405	408	402
Recovery .	96.0	97.0	98.0	96.0	97.0
V. P.	10.0	8.9	7.5	9.4	8.3
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	49	51	53	45	49
Initial	98	92	98	104	103
10 per cent	145	140	139	169	130
20 per cent	177	174	168	204	145
50 per cent	274	256	251	262	228
90 per cent	374	380	382	384	378
Endpoint .	420	424	417	424	416
Recovery .	97.0	97.0	96.5	97.0	97.0
V. P.	7.3	10.0	8.6	5.6	6.1
Color	22	25	20	21	18

COMPANY D

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	62	70	68	69	68
Initial	92	88	90	91	93
10 per cent	138	128	126	135	133
20 per cent	167	153	152	160	159
50 per cent	248	238	236	242	245
90 per cent	382	359	364	370	372
Endpoint .	419	405	404	408	410
Recovery .	96.0	96.0	97.0	96.0	96.0
V. P.	10.0	11.0	10.8	10.4	8.5
Color	27	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	76	...	74	76	70
Initial	96	...	96	92	102
10 per cent	136	...	148	127	140
20 per cent	155	...	164	148	165
50 per cent	224	...	240	227	252
90 per cent	328	...	357	357	366
Endpoint .	385	...	404	406	411
Recovery .	96.5	...	98.0	97.0	97.0
V. P.	9.6	...	9.1	9.1	6.0
Color	C	...	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	50	52	48	49	50
Initial	102	94	112	94	105
10 per cent	156	144	173	146	158
20 per cent	190	170	198	178	184
50 per cent	280	252	272	253	247
90 per cent	396	378	378	369	380
Endpoint .	426	432	426	409	420
Recovery .	97.0	98.0	98.0	97.0	97.5
V. P.	6.6	8.0	5.2	7.6	5.7
Color	30	30	26	30	27

COMPANY E

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	61	69	69	70	70
Initial	98	87	88	88	89
10 per cent	150	126	137	129	135
20 per cent	180	156	171	159	166
50 per cent	260	240	251	246	243
90 per cent	374	364	363	368	370
Endpoint .	418	420	424	415	420
Recovery .	97.0	96.0	96.5	95.5	96.0
V. P.	8.4	11.6	9.7	10.8	10.0
Color	26	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	65	77	74	77	76
Initial	118	94	92	83	92
10 per cent	178	140	138	132	128
20 per cent	200	166	169	162	158
50 per cent	262	246	254	242	239
90 per cent	376	366	370	356	366
Endpoint .	426	420	418	417	421
Recovery .	98.0	97.5	97.0	97.5	95.5
V. P.	4.4	8.7	9.0	9.6	9.6
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	52	54	54	52	55
Initial	95	90	92	95	93
10 per cent	150	136	137	140	133
20 per cent	187	171	169	173	165
50 per cent	270	257	261	249	147
90 per cent	385	380	377	375	377
Endpoint .	430	428	425	429	435
Recovery .	97.0	96.5	96.5	96.0	96.5
V. P.	7.2	10.0	9.3	8.9	8.4
Color	C	30	30	26	25

COMPANY F

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	64	70	69	70	71
Initial	90	92	84	84	82
10 per cent	122	123	109	114	110
20 per cent	142	140	120	129	126
50 per cent	219	210	161	195	196
90 per cent	386	362	313	350	358
Endpoint .	418	412	405	412	405
Recovery .	96.0	97.5	97.0	97.0	97.0
V. P.	10.7	10.6	12.6	12.6	12.6
Color	17	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	78	78	75	76	77
Initial	92	92	92	95	98
10 per cent	122	124	111	114	110
20 per cent	140	142	118	122	118
50 per cent	209	210	142	158	135
90 per cent	374	335	261	312	244
Endpoint .	423	388	385	406	338
Recovery .	97.0	98.0	96.5	97.0	96.0
V. P.	10.5	9.5	11.5	11.3	10.7
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	51	53	51	51	52
Initial	90	89	101	100	98
10 per cent	135	135	153	154	142
20 per cent	170	173	185	186	176
50 per cent	235	260	262	264	258
90 per cent	387	356	375	381	378
Endpoint .	431	392	426	424	420
Recovery .	97.0	97.0	97.0	97.0	97.0
V. P.	8.4	10.0	6.7	6.5	8.4
Color	C	30	8	21	28

COMPANY G

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	60	70	69	68	70
Initial	94	88	87	85	89
10 per cent	140	134	137	117	117
20 per cent	165	164	158	141	138
50 per cent	251	242	241	237	222
90 per cent	362	354	359	358	349
Endpoint .	397	392	394	395	391
Recovery .	98.0	97.0	96.0	96.0	96.0
V. P.	7.5	9.7	10.7	11.8	12.0
Color	30	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	79	71	75	76	73
Initial	96	91	89	89	90
10 per cent	145	134	130	128	120
20 per cent	173	170	161	156	143
50 per cent	240	252	243	230	226
90 per cent	352	356	364	336	345
Endpoint .	388	392	392	394	386
Recovery .	95.5	92.0	95.0	96.0	96.0
V. P.	8.5	9.8	9.7	11.5	11.3
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	56	53	52	59	51
Initial	92	88	92	90	102
10 per cent	139	134	143	144	165
20 per cent	166	174	182	172	195
50 per cent	254	269	267	250	262
90 per cent	360	356	375	363	347
Endpoint .	399	392	408	392	409
Recovery .	98.5	97.0	97.0	95.0	97.0
V. P.	7.4	10.0	8.5	11.7	5.1
Color	28	30	20	30	11

COMPANY H

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	66	68	70	69	70
Initial	95	94	93	90	90
10 per cent	132	146	135	136	135
20 per cent	160	174	164	170	166
50 per cent	245	252	248	259	246
90 per cent	353	356	354	365	358
Endpoint .	394	394	399	396	391
Recovery .	97.0	96.0	96.5	96.5	96.4
V. P.	8.4	7.3	8.2	9.5	8.9
Color	18	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	78	76	72	...	75
Initial	98	92	104	...	97
10 per cent	156	137	150	...	131
20 per cent	182	170	173	...	160
50 per cent	244	246	246	...	225
90 per cent	360	356	354	...	346
Endpoint .	406	390	408	...	400
Recovery .	97.0	97.0	97.5	...	97.0
V. P.	7.7	8.4	6.5	...	7.6
Color	C	C	C	...	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	49	53	46	46	56
Initial	96	95	92	100	102
10 per cent	143	150	142	150	158
20 per cent	179	180	183	179	187
50 per cent	272	250	283	267	245
90 per cent	371	377	392	382	343
Endpoint .	418	422	427	427	380
Recovery .	97.0	98.0	96.5	98.0	97.0
V. P.	7.5	7.8	8.2	7.9	5.3
Color	19	...	30	19	23

COMPANY I

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	66	70	68	69	70
Initial	90	100	92	90	90
10 per cent	132	150	138	140	138
20 per cent	162	180	167	170	172
50 per cent	238	252	247	246	250
90 per cent	350	350	364	352	365
Endpoint .	398	412	401	398	400
Recovery .	96.0	98.0	96.5	97.5	95.0
V. P.	10.2	7.5	9.0	10.6	8.5
Color	C	...	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	76	73	76	76	79
Initial	98	98	95	100	90
10 per cent	151	149	140	148	130
20 per cent	180	176	165	170	158
50 per cent	251	244	218	223	237
90 per cent	360	350	305	307	355
Endpoint .	399	394	368	363	392
Recovery .	97.5	97.0	97.0	97.0	96.0
V. P.	7.4	7.2	8.6	7.6	9.6
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	60	53	54	50	52
Initial	94	106	96	100	105
10 per cent	154	160	148	158	161
20 per cent	186	190	183	187	190
50 per cent	258	251	256	262	259
90 per cent	361	352	373	376	368
Endpoint .	419	403	416	418	408
Recovery .	98.0	98.0	98.0	98.0	96.0
V. P.	7.8	6.2	7.5	6.5	5.3
Color	22	16	0	C	0

COMPANY J

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	66	68	69	69	69
Initial ...	89	98	95	87	90
10 per cent	132	140	129	129	126
20 per cent	156	170	162	160	160
50 per cent	234	238	246	247	234
90 per cent	348	350	354	350	344
Endpoint .	388	398	387	387	385
Recovery .	96.0	97.5	96.5	96.0	97.0
V. P.	9.8	7.8	10.2	11.1	9.6
Color	27	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	78	78	74	72	75
Initial ...	95	94	91	93	93
10 per cent	140	136	130	143	130
20 per cent	170	162	162	180	163
50 per cent	250	220	246	260	244
90 per cent	352	320	360	376	340
Endpoint .	381	378	387	411	394
Recovery .	96.0	97.0	95.0	96.0	97.5
V. P.	9.2	9.5	11.0	8.5	9.2
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	55	46	55	...	64
Initial ...	97	94	97	...	89
10 per cent	154	161	148	...	136
20 per cent	184	194	186	...	159
50 per cent	262	272	267	...	242
90 per cent	387	382	380	...	354
Endpoint .	434	418	420	...	388
Recovery .	96.0	98.0	97.0	...	96.0
V. P.	7.6	7.3	7.8	...	8.5
Color	21	30	15	...	26

COMPANY K

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	66	68	68	69	69
Initial	87	88	87	85	85
10 per cent	137	126	118	116	111
20 per cent	174	153	146	139	139
50 per cent	259	226	237	221	219
90 per cent	367	332	357	349	345
Endpoint .	396	387	394	394	404
Recovery .	95.0	96.0	95.5	96.0	96.5
V. P.	10.4	10.8	12.4	12.6	10.7
Color	26	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	76	76	76	77	78
Initial	88	94	89	87	84
10 per cent	136	136	124	124	109
20 per cent	162	161	154	149	139
50 per cent	240	238	225	204	202
90 per cent	345	349	328	307	327
Endpoint .	389	389	375	366	382
Recovery .	96.0	97.0	96.0	96.0	96.0
V. P.	10.0	8.2	10.2	11.1	11.3
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	55	55	60	57	63
Initial	96	88	91	100	90
10 per cent	148	134	142	152	136
20 per cent	190	176	175	184	165
50 per cent	284	265	245	259	225
90 per cent	384	370	359	362	345
Endpoint .	423	414	413	421	404
Recovery .	97.0	98.0	96.5	97.0	97.5
V. P.	7.4	8.6	8.6	8.7	7.5
Color	27	27	18	22	20

COMPANY L

Regular Grade

	1933	1934	1935	1936	1937
Octane No.	68	68	70	71	70
Initial	98	100	89	90	88
10 per cent	148	150	133	128	125
20 per cent	177	179	161	156	155
50 per cent	251	250	229	230	240
90 per cent	362	346	322	370	340
Endpoint .	426	404	369	432	429
Recovery .	96.5	97.0	96.0	95.0	96.0
V. P.	9.7	9.2	10.6	11.7	9.6
Color	C	C	C	C	C

Premium Grade

	1933	1934	1935	1936	1937
Octane No.	78	76	77	77	75
Initial ...	96	90	95	89	93
10 per cent	136	137	134	130	126
20 per cent	160	162	158	157	153
50 per cent	230	224	215	224	213
90 per cent	351	324	315	332	305
Endpoint .	432	412	383	392	390
Recovery .	94.0	97.0	96.5	96.0	96.5
V. P.	10.0	9.2	10.0	11.6	8.5
Color	C	C	C	C	C

Third Grade

	1933	1934	1935	1936	1937
Octane No.	54	51	52	51	54
Initial ...	102	101	95	106	96
10 per cent	160	160	154	164	150
20 per cent	190	180	186	191	180
50 per cent	260	247	250	253	240
90 per cent	361	354	347	356	350
Endpoint .	440	421	425	412	425
Recovery .	97.5	97.5	97.0	97.0	96.5
V. P.	6.2	6.0	7.0	6.5	8.3
Color	C	20	20	16	23

of 10 years there has come a decided drop in the volatility of the regular and the premium grades all of the way from the initial point through to the endpoint. In the case of the third grade, the first part of the distillation curve indicates a lower volatility in 1927 than in 1937, but from the 30 per cent point to the end the 1937 curve is substantially better.

Refiners and marketers have been concerned with the octane values of their fuels as much as the volatility of these fuels. The survey indicates that octane values generally are higher, and this may be the beginning of another "octane race," particularly so if no agreement is reached regarding the manner in which motor fuels will be tested for their octane value.

While the present discussion regarding methods of test covers a detail that influences the test results but one or two points, the settling of the question whether one test method is used or alternate methods are used could supply the flexibility in deriving test results that would offer an excuse to gradually work octane values substantially higher.

In this connection, it is interesting to note that the average octane value of the house brand or regular grade samples is a full 70, the maximum permitted under licenses granted by the Ethyl Gasoline Corp. for "Q" gasoline. If this limitation was removed or some means devised through a revision of test methods, there is reason to believe this average would rise.

The tendency to push octane values higher is also clearly shown in the test results on the premium grades. Here the seven-point difference between the regular and premium grades is reflected and it is interesting to note that two samples of premium gasoline have octane values of 79, the highest octane value shown for any fuels covered in the 11-year survey. It is also significant one sample showed an octane value of 70. This fuel probably carried a much higher value as it left the refinery but lost some of the original octane value in storage. The most substantial raise in octane number is shown for the third grade but this average still remains low enough to indicate that the average third-grade gasoline will knock in the modern cars and in view of the declining sale of third grade gasoline compared with regular and premium fuels, this belief appears to be substantiated.

Average Quality of Gasolines Sold January 1 of Each Year

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
REGULAR GRADE											
Octane number	.....	.....	.....	.....	60	61	65	69	69	69	70
Initial point, °F.	114	99	104	97	97	94	94	92	90	87	89
10 per cent, °F.	160	146	150	149	148	143	139	135	127	127	125
20 per cent, °F.	192	180	185	182	182	173	166	163	153	155	150
50 per cent, °F.	269	267	271	261	255	256	247	242	231	236	240
90 per cent, °F.	375	379	381	375	373	377	365	354	352	359	358
Endpoint, °F.	426	426	423	416	411	404	406	403	400	406	401
Recovery, per cent	97.8	97.4	97.8	96.5	96.9	96.7	96.5	96 7	96.4	96.2	96.2
Vapor pressure	.....	.....	.....	.....	6.4	9.0	9.5	9.5	10.4	11.1	10 3
PREMIUM GRADE											
Octane number	.....	.....	.....	.....	72	74	76	75	75	76	77
Initial point, °F.	117	106	106	94	94	97	96	93	94	91	93
10 per cent, °F.	161	153	157	140	141	146	142	136	132	129	126
20 per cent, °F.	191	187	185	174	170	171	177	163	157	153	150
50 per cent, °F.	257	263	257	256	246	243	237	235	225	223	219
90 per cent, °F.	371	370	362	365	361	352	350	344	338	338	332
Endpoint, °F.	421	419	404	407	403	363	399	394	392	392	386
Recovery, per cent	98.0	97.7	98.0	97.0	97.6	96.9	96.4	97.1	96.9	96.4	96.5
Vapor pressure	.....	.....	.....	.....	7.5	8.1	9.0	8.8	9.6	10.2	9.2
THIRD GRADE											
Octane number	.....	.....	.....	.....	.....	51	53	53	52	51	54
Initial point, °F.	94	94	95	87	.....	102	96	94	97	99	97
10 per cent, °F.	130	146	137	143	.....	152	148	146	148	154	143
20 per cent, °F.	162	180	170	177	.....	193	181	180	181	185	173
50 per cent, °F.	300	264	265	267	.....	276	264	252	261	257	248
90 per cent, °F.	436	386	391	404	.....	380	368	367	373	371	361
Endpoint, °F.	456	422	429	437	.....	426	426	425	421	416	411
Recovery, per cent	96.0	96.0	96.5	95.5	.....	97.3	97.3	97.5	97.0	96.7	96 7
Vapor pressure	.....	.....	.....	.....	.....	6.5	7.6	8.4	7.8	8.0	8.0

Results 1927 to 1930 inclusive based upon average of tests made on 34 samples purchased from company-owned stations operating in Tulsa, including Phillips, Texas Co., Skelly, Pierce, Magnolia, Barnsdall, Sun, Shell, Transcontinental, Cities Service, Sinclair, Continental, Mid-Continent, Wilcox, Independent Oil, Tidal, National and Southland Gasoline.

Results 1931 to date based upon average of tests made on samples purchased from company-owned stations in Cleveland, Chicago, Kansas City, Fort Worth and Tulsa, including Standard of Ohio, Skelly, Cities Service, Continental Oil, Barnsdall, Mid-Continent, Phillips, Sinclair, Magnolia, Gulf, Texas Co. and Standard of Indiana.

Western Extension of Rodessa Field in Texas a Possibility

A well drilled by Holcomb and Thomason and carried as No. 1 Lizzie Henderson, 330 feet south and east corner, Block 18, of Lizzie Henderson Subdivision, or 2,800 feet south, 3,450 feet east of northwest corner of R. Bennington Survey, and about 3 miles north of Jefferson, county seat of Marion County, Texas, has had a showing of gas and oil through 29 gun perforations in the 7-inch casing between 5,982 and 5,996 feet. The hole was drilled to a total depth of 6,405 feet and had shale at the bottom.

After swabbing down to 3,500 feet below the surface oil and gas began to show and it is reported oil of 45 gravity was found. This oil was mixed with drilling water, and swabbing continues. It is estimated about 5,000,000 feet of gas accompanied the oil.

This well is located about 14 miles from the farthest west Rodessa field production and it is reported the showing of gas and oil was found in the Lower Glen Rose lime section. It is understood that if this showing does not make a commercial well the 7-inch casing will be perforated again, higher up in the hole.

Egloff Heads Program

CHICAGO.—Dr. Gustav Egloff, director of research of Universal Oil Products Co., has accepted an invitation to head a committee to arrange a program on refining for the World Petroleum Congress, to be held in Paris, June 14 to 19, 1937.

Doctor Egloff has invited a number of men eminent in American refinery technology to serve as members of the committee, and a general invitation is being extended to petroleum technologists to submit papers for the program.

Because of the shortness of the time, Doctor Egloff requests that anyone having in mind to contribute a paper get in touch with him as soon as possible.

The congress is under the auspices of the Association of French Petroleum Technologists and the Institution of Petroleum Technologists of Great Britain.

Crawford gasoline plant recently acquired by the Skelly Oil Co. The plant is located in Gray County, Texas. An expansion program has been outlined for this plant which will increase its capacity by at least 50 per cent

DEPARTMENT OF GEOGRAPHY

Fifth Exploratory Phase to Be Used in Finding New Fields

By W. V. HOWARD
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The history of the discovery of oil fields consists of five phases which began at different times, but have run concurrently down to the present day. Each has contributed largely to the discovery of new fields.

The first stage was the hit-or-miss method, in which a well was started with no geological information, on the principle that oil is where you find it and the geologist cannot see farther into the ground than anyone else. The bases for this type of drilling are numerous. A well is drilled on a hill because it looks exactly like the country around Bradford; Jonesville has an oil field so Smithboro should have one too; or somebody "just felt it in his bones that there was oil there." Possibly the wildcatter was aided by a fortune-teller, astrologist, or divining-rod. Such methods of locating oil fields are naturally foredoomed in the great majority of cases, but have been successful often enough to make an occasional geologist humble. Often, too, the drillers by the hit-or-miss method uncover much valuable information which leads directly to the discovery of new fields.

Next there was the unconscious geological method. Wells were drilled near oil seeps and uncovered pools at depths far below that from which the oil was seeping. We do not know why it should be so, but experience has shown that where we get shallow production we often get deeper production. We have evolved many theories to explain this of which the most logical is that once a high develops, later movements tend to cause the high to become relatively higher. But this theory merely explains the surface exposure of buried highs. It does not tell us why oil occurs at various depths on those highs. Many geologists have weird and wonderful theories about migration, sometimes with conveniently arranged cracks and traps and fluids which are almost humanly intelligent in arranging themselves according to the theory. These would not be of great importance were it not for the fact that the layman is often prone to take the theory, elaborate on it and use it to justify his hunch, generally with disastrous results.

Another such method was the old "oil line" method used so successfully in Pennsylvania. This was, of course, an unconscious development of the idea of structural trends and worked beautifully so long as the structural trend was straight.

The third, or structural method, was based on the anticlinal theory. This method is the one most generally used and rests on what is probably the only known law of occurrence of oil and gas, namely, that if we have two or more immiscible or partially immiscible fluids, the lightest will be at the top and the heaviest at the bottom. This method followed directly from the second and has been responsible for the discovery of most of our fields. Structures were mapped on the surface or on subsurface markers and drilled.

However, many structures do not show up on the surface. Either they are not reflected there or the surface exposures are poor. It was necessary to devise methods of locating buried structures, so the physicist came to our aid, and geophysics was developed as a practical science. Geophysics, like geology, is subject to interpretations. Certain propositions used by the geophysicist approach laws. Thus, we know that certain rocks transmit or reflect waves in definite ways and by artificially sending those waves into the earth and noting the way in which they come back we can get valuable clues concerning buried structures. The seismograph never lies; it gives us an exact picture, but sometimes we cannot interpret the picture after we get it.

Another law is, that if heavier rocks rise close to the earth's surface as a result of earth movements, there will be local differences in the pull of gravity. The torsion balance was devised to measure these differences. Like the seismograph, the torsion balance never lies. A torsion balance map is as exact as an airplane photograph, but sometimes when we get it we don't know what it means. A torsion balance high may mean a thick mass of anhydrite in a buried basin. It may mean a buried volcano or a dozen things other than the anticline we are looking for. In some areas the lows are more favorable than the highs.

The magnetometer measures minute differences in the earth's magnetic field. A magnetic high is a perfectly definite thing, but what causes it is not so definite. It may be a buried ridge or it may be a magnetic sand close to the surface.

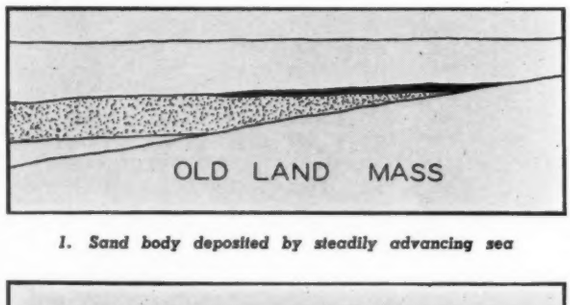
Other geophysical methods measuring resistivity, radiations from the earth and so forth, are perfectly sound as a means of measuring these forces, but need not necessarily have a bearing on oil accumulations. For the purpose of finding oil they may be of as little value as the reported statement of a former state geologist of Florida, that oil would not be found in his state because oil fields were all located in areas where the trees were coniferous. His statement regarding the distribution of oil fields has proved to be wrong. If it were right it would only be a coincidence and would have no bearing on oil in Florida. Thus, many phases of geophysics may have no more bearing on the finding of oil than much of trigonometry or wave mechanics. We can use certain phases of all of these sciences and they have been extremely valuable tools, but they are not, in themselves, of prime importance in the finding of oil.

The fifth method is at present only in part a scientific method, but it will develop rapidly. On it we shall depend for the discovery of new pools to an increasing extent. It will be an expensive method because it will be impossible to predict exactly where the changes occur that will govern the accumulation of oil. This method may be called the paleogeographic method. It may better be illustrated than defined.

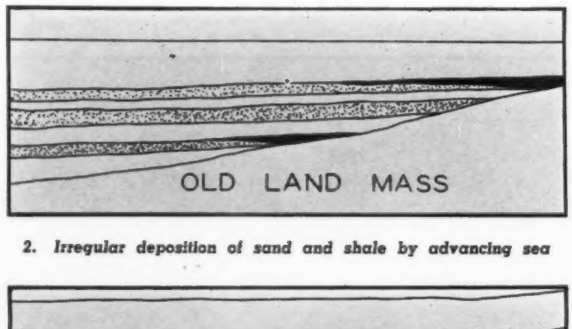
If the average oil producer is asked how the East Texas field was found, he will probably say that it was found by the hit-or-miss method. He will probably go on to say that every geologist in the country was badly fooled about East Texas. In the latter statement he will be wrong.

Most geologists who have studied the area, even casually, believed there was a field in East Texas. They did not know where it was or how big it was. Their reasoning was something like this: The Woodbine sand carried oil on the west side of the basin. In both of these places there are traps. The obvious structural trap on the east side is the Sabine uplift in northwest Louisiana. But the Woodbine sand does not occur there. Therefore, it must pinch out somewhere between Van and the top of the high. Somewhere along the line where it pinches out it will be high and here there will probably be an oil field.

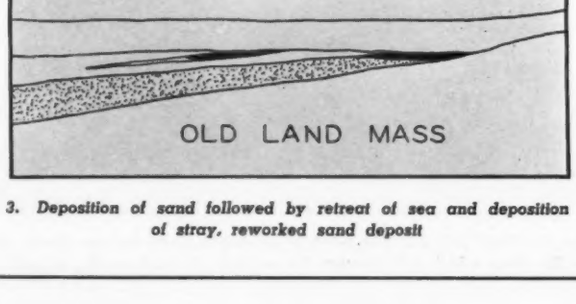
EXAMPLES OF OIL POOLS AT OLD SHORE LINES



1. Sand body deposited by steadily advancing sea



2. Irregular deposition of sand and shale by advancing sea



3. Deposition of sand followed by retreat of sea and deposition of stray, reworked sand deposit

The East Texas field could have been found by any company which, after leasing the whole area, systematically traced down the edge of the Woodbine with dry holes until it struck the field. This, however, would have been an extremely expensive undertaking.

The shoestring sands of Kansas are an excellent example of the unreflected field. These sands can be followed for long distances. Drilling progresses along them much as a measuring worm moves over rough going. For years we have argued as to the nature of these sands, whether they were buried rivers or buried sand bars. Now, through the work of Bass and others we know the best place to study shoestring pools is on the Atlantic Coast or the Gulf of Mexico. It may be pointed out that although this suggestion will be eagerly supported by many geologists, it may take some time before oil company executives will be educated to the point where they will adopt it.

At the present time we have several types of buried pools not discoverable by ordinary surface methods or by geophysical methods. All of these pools are generally located on structures, but are on the flanks, not on the top. They are by no means discoverable only by chance, for geology, even at the present time, can provide many clues if both geologists and producers can be persuaded to use patience. The universities and surveys can help, but their work is not always valuable, because it is not checked. Oil company geologists, whose results are checked by the drill, have advanced far beyond the noncommercial geologists. A major company may now know as much about many of the purely scientific phases of geology as the staff of any university in the country. Unfortunately, the company does not know what it knows because most of its staff is busy on plays and cannot find time to set on paper the things substantiated. What is needed is a large number of men employed on compilation and on so-called "useless" research. General Electric and Du Pont have such men and they pay better dividends than the men on active problems.

METHODS OPEN TO ALL

The independent is by no means barred from this sort of geology. He may even have an advantage over the big company which must spread over the whole map. The independent may pick one county and give a man a year to work it up. If he takes 10 counties and 10 years before he finds anything, it has cost about the same as one wildcat. The geological work required to locate the hidden pool is necessarily detailed and a large staff merely covers a proportionally large amount of ground. A man may miss a single significant fact and another one may find it. That man's company gets the reward no matter who it is or how many geologists it has.

The theory behind the discovery of these pools is not difficult. In subsequent articles I shall try to develop not only the general theory but also certain particular phases of it. I shall try to summarize some of our knowledge about areas where these pools may lie.

We do know when we find oil, where we find it, why we find it where we do, and often we know why we don't find it where we look for it. We can study its environment and if we go slowly we can prevent ourselves from drawing wrong conclusions.

One of the things we must avoid is applying theories to practice too rapidly. It was an experienced oil man who offered to drink all the oil found west of the Mississippi River. Experienced geologist placed the low limit of production in the Mid-Continent in the Chat, then in the Misener, then in the Arbuckle. Experienced geologists condemned the Illinois Basin because it was a basin. Now they are enthusiastic about it because it is a basin. Illinois operators do not regard the St. Peter sand as a likely reservoir. Oklahoma operators wouldn't go into Illinois if the St. Peter did not resemble the Wilcox so closely.

All of this confusion does not mean that geology is an inexact science, it merely means that geologists are often inexact scientists. Like everybody else, they leap where it is unsafe to do more than crawl. Often they leap because they are prodded by executives who want the dope right now and think that there is something wrong with the man who can't give it to them. Frequently these leaps have proved to be highly successful, but as the country gets drilled up they will necessarily become more dangerous.

A rule that should never be forgotten is that we should study the past in terms of the present. The laws of physics, chemistry, geology and biology were the same in the Permian as they are today. What went on then goes on now, somewhere. Organisms have evolved considerably since that time, but that is all. The sea advanced and retreated across the face of land masses as it does now, so imperceptibly that human history is not long enough to measure a single variation of any consequence.

This idea of slow changes and of forces acting over immeasurably long periods is a thing we all know about, but unconsciously we speed them up. We state that after the deposition of the Viola lime came the Sylvan shale. This may seem a very unimportant point, but we are all familiar with statements about the shore of the Woodbine sea when there were dozens of shore lines of that sea. The sea advanced on the land at that time, but was the advance uniform? Were there minor retreats? In one place the Woodbine section may be as in Figure 1. In another it may be as in Figure 2, and the third as in Figure 3.

Dry holes cost much more than geologists and if we give our geologists more time and permit them to work on phases of geology which do not at first promise much in the way of dividends, we may be very agreeably surprised at the results. But we cannot expect them to produce results if they are being continually taken away from their research on the Oklahoma Panhandle to follow a play in Pontotoc County.

RESEARCH NECESSARY

Geologists should theorize, and search the general literature for ideas which may apply to the finding of oil for there is no difference between petroleum geology and any other kind of geology. Petroleum geology merely discards certain branches of geology and applies the rest to the location and development of oil and gas pools. There is not a fact connected with the deposition or deformation of sedimentary rocks which may not be of value to us, no matter where that fact is discovered. Buried in the literature of 50 years ago there are literally thousands of long-forgotten facts which could be put to immediate use. Having collected our facts and made our generalizations we should test them, and we must not ignore our hunches.

Some years ago over 80 per cent of the leading chemists of the country stated, in answer to a questionnaire, that their best results came from following up hunches. These hunches frequently came after they had worked for months on a problem getting nowhere. However, after we get our hunch we should test it. One of the surest ways of locating a dry hole is to get two facts and a hunch and then drill. The geologist should check up on new ideas, but he shouldn't do it with a bit. Our discoveries, which in 19 cases out of 20 are not original, should always be checked and counter-checked, tested in every possible way before we drill on them.

At the same time we must realize that we cannot take too long, we must take some chances. It does not do us any good to spend 10 years checking up an area and triumphantly reach a conclusion only to find that a wildcatter has stumbled on our location by chance and is on the sand. Overdelay is generally prevented by the eagerness of the producer to drill.

Every year executives are authorizing increased expenditures on research, mainly in active areas, or in field work which being more or less conspicuous can be checked on by other companies. The search for unreflected fields is largely office and laboratory research, and from it will result planned leasing and drilling instead of the present method of leasing blocks and spreads, checking them geophysically and then drilling them regardless.

Finding Future Oil Reserves

Doctor Howard, in a series of four articles, of which this is the first, discusses the changes in exploratory work which will be necessary if the industry is to find new reserves adequate to supply a rapidly increasing demand. Essentially this development means the application of geology to the finding of oil fields which are not located on the crests of structures discoverable by methods now in general use.

The series has been made as nontechnical as possible and will be of special interest to the layman.

The topics discussed in future articles include structural trends, shore lines and unconformities. The principle is stressed that much can be learned by a study of present shore lines and land surfaces which can be applied directly to prospecting for oil.

The author of these articles graduated from McGill University in 1916. After serving with the Canadian forces in France he returned to McGill, obtaining his Ph.D. in 1924. From 1926 to 1936 he was on the faculty of the University of Illinois, where he taught the courses in petroleum geology. In 1936 he resigned his position to take up consulting work with headquarters in Tulsa. During the years 1926 to 1931 he was in charge of the A.P.I. research project on limestones as reservoir rocks.

Loss in Flooded Oil Properties Totals Several Million Dollars

Damage to oil properties as a result of the Ohio River flood and the possible extension of the losses soon into the lower Mississippi areas cannot be accurately determined for at least several days, according to reports received the first of this week. It is estimated that the losses to oil property alone, including oil stocks, will total several millions dollars.

Wire information on Tuesday obtained from companies operating in the Ohio River area shows that the property loss was confined to refineries and marketing facilities. In most cases the refineries, bulk stations, terminals and retail stations are still inundated and their owners have not been able to estimate losses and did not know when normal operations will be resumed.

In many cases operators lost both tankage and their contents. In other instances, despite several feet of water at stations and plants no serious damage is believed to have resulted and operations can be resumed within a few days after the water has receded.

The Coraopolis, Pa., refinery of the Canfield Oil Co. suffered no damage but was closed down for one day when flood waters reached a height of 2 feet in the lower part of the plant. When higher waters failed to materialize the plant was reopened.

The refineries reported to be shut down and their rated crude oil capacities are as follows:

REFINERIES IN FLOOD AREAS

	Capacity (bbls.)
Ashland Refining Co., Catlettsburg, Ky.	2,000
Aetna Oil Service, Inc., Louisville, Ky.	2,000
Gulf Refining Co., Hooven, Ohio	13,000
Louisville Refining Co., Louisville, Ky.	4,500
Standard Oil Co. of Ohio, Latonia, Ky.	8,000
Stoll Oil Refining Co., Louisville, Ky.	2,500

At the first of the week crest water was 5 feet deep in Aetna's refinery with the tankage and refining facilities in good shape. The company was planning to start tankcar shipments the latter part of the week and resume refinery operations in 10 days.

Major losses were suffered by oil terminals and bulk stations along the Ohio River. Flood waters stopped operations of Pure Oil Co.'s Point Pleasant and Huntington, W. Va., bulk plants, and in Marietta, Pomeroy, Portsmouth, Ripley and Cincinnati, Ohio, and Ashland, Ky. Most serious damage was sustained at Huntington, Portsmouth and Cincinnati, where water was 14 to 18 feet deep. Several large tanks at these points were upset or torn from their foundations.

No serious gasoline shortage has developed from the shutting down of these refineries, as the markets normally supplied by these plants are receiving supplies from the Chicago area and from plants located in the Gulf Coast area. At some points, however, considerable difficulty was encountered in transporting the shipments to isolated districts.

Although there are numerous fields, refineries, terminals and tank farms situated along the Mississippi River in southeastern Louisiana, no large property loss is anticipated by the various companies interested in that area, from the flood, expected to strike in that district within the next 10 days. All empty storage tanks are being weighted down by filling them with water and in those fields which are situated near the river preparations in most cases are being made to kill all flowing wells with mud. Producing fields near the river include Darrow and Sorrento in Ascension Parish, Bayou Blue and White Castle in Iberville Parish and Texas Co.'s Garden Island field in Plaquemine Parish near the mouth of the river.

There are four refineries situated along the river. They include Pan American Southern Corp.'s 16,000-bbl. plant at Destrehan, Shell Petroleum Corp.'s 21,000-bbl. plant at Norco, Standard Oil Co. of Louisiana's 90,000-bbl. plant at Baton Rouge and Chalmette Petroleum Corp.'s 7,500-bbl. plant at Chalmette.

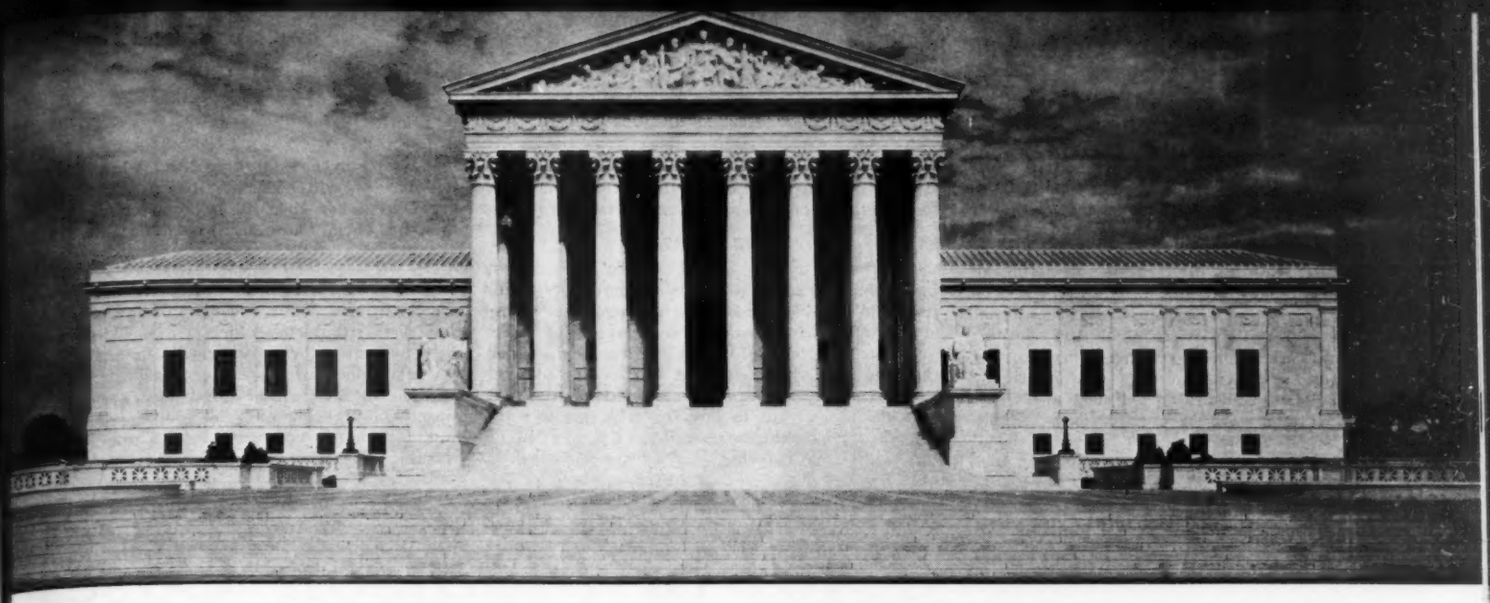
With the exception of Standard of Louisiana refinery at Baton Rouge, the other refineries are located near New Orleans and are protected by two relief spillways constructed after the flood of 1929. North of Lake Charles, about 22 miles, the Bonnet Carrie floodway can be used to divert the water through Lake Ponchartrain to the Gulf, while on the west side of the river, farther north, the water can be by-passed through the Atchafalaya headwater spillway through the Atchafalaya Basin to the Gulf at a point below Morgan City. These spillways will not be used, however, unless the levees are in danger of breaking.

The Cincinnati Oil Works Co. had one bulk station and seven retail stations in Cincinnati submerged. However, no great amount of damage was done as the company was able to remove the stocks of motor fuel from the tanks and fill them with water.

Several companies were not so fortunate in emptying their storage tanks and as a result many tanks overturned or floated away to create fire hazards. Two large storage tanks at Gulf's Cincinnati refinery broke loose and Standard Oil Co. of Ohio's bulk plant in Cincinnati was completely destroyed when gasoline from ruptured storage tanks became ignited. Damage to the plant was estimated at $1,500,000 to $2,000,000. Tresler Oil Co., Republic Oil Co., Powell Oil Co. and Ohio River Refining & Terminal Co. all encountered losses when their bulk terminals were inundated and tanks torn loose from their moorings.

Sinclair Refining Co. had 5 bulk plants in Ohio and 11 in Indiana where business was suspended on account of the floods. Some stations were inundated, others washed away and tanks afloat. Ohio Oil Co. had several stations and bulk plants between Pomeroy, Ohio, and Paducah, Ky., under water, with the greatest damage believed to have occurred in the Louisville, Evansville and Jeffersonville areas. Ohio's Jeffersonville bulk plant was reported completely destroyed. Phillips Petroleum Co.'s bulk plants and service stations in Louisville, Paducah, Evansville and Aurora suffered some damage but the actual amount could not be determined until flood waters receded.

A bulk station in the flooded area



New home of the United States Supreme Court.—(Harris & Ewing)

Can't Give One Man's Property to Another, Court Decides

By HENRY D. RALPH

WASHINGTON, D. C., Feb. 1.—"Our law reports present no more glaring instance of the taking of one man's property and giving it to another," declared Justice Brandeis today in a supreme court decision invalidating a natural gas proration order issued by the Texas Railroad Commission. Another decision of the court upheld the constitutionality of a nondiscriminatory ad valorem tax on personal property used by a lessee of restricted Indian land in producing oil and gas.

The case in which the court held that property had been taken from one man and given to another was that of Thompson et al. versus Consolidated Gas Utilities Corp. et al. The plaintiff challenged the validity of a gas proration order issued by the railroad commission under authority of house bill 266, passed by the Texas legislature May 1, 1935.

In delivering the court's opinion Justice Brandeis said: "We are clearly of the opinion that if the act were construed as the defendants contend it should be, and as the commission has applied it, it would violate the federal constitution."

Consolidated Gas claimed that the statute's real purpose was not to prevent waste, but to compel the company to purchase gas, in order to fulfill existing contracts, from well owners who under the present law are obliged to stop production for want of a market. This would be a violation of the fourteenth amendment, according to Consolidated, since it would take away the company's property rights in its own equipment, pipe lines, marketing facilities, and the gas contained in its field.

Consolidated insisted that house bill 266 should be construed as regulating the company's gas production and the production of other pipe line owners only in connection with waste prevention, and that since the company's operations do not involve or threaten waste, the order of the commission was without statutory authority. The supreme court sustained this contention by upholding the lower court.

"We are always reluctant to pass upon a seriously controverted question of the meaning of a state statute," said Justice Brandeis. "But being under duty to make an independent study of the question, we have done so. That study leaves us in grave doubt whether the lower court has correctly interpreted the intention of the law makers."

OKLAHOMA COURT OVERRULED

Overruling the decision of the Supreme Court of Oklahoma, Chief Justice Hughes decided in the case of Taber versus Indian Territory Illuminating Oil Co., that a nondiscriminatory ad valorem tax on the personal property used by a lessee of restricted Indian land in producing oil and gas is not unconstitutional. The Supreme Court of Oklahoma had decided that the property was not taxable because the lessee was a federal instrumentality and congress had not consented to its taxation.

"Our decisions distinguished between a nondiscriminatory tax upon the property of an agent of the government and one which imposes a direct burden upon the exertion of governmental powers," Chief Justice Hughes said. "In the former case, where there is only a remote, if any, influence upon the exercise of governmental functions, we have held that a nondiscriminatory ad valorem tax is valid, although the property is used in the operations of the governmental agency."

Chairman Clarence F. Lea, of the House Interstate Commerce Committee, has reintroduced his bill to give the Federal Power Commission authority to regulate interstate transportation and sale of natural gas. The bill is similar to the measure reported by that committee last May with addition of a provision that a certificate must be obtained before any company can extend its facilities or reach a market already served.

Hearings on the bill introduced by Senator Connally, of Texas, providing for continuance of the so-called "hot oil" law, which expires next summer, will open February 12 before the subcommittee of the senate finance committee. This subcommittee is composed of Senators Connally; Guffey, of Pennsylvania, and Townsend, of Delaware. Secretary of Interior Ickes will be the first witness. It is expected the hearing will continue most of the following week.

This is the bill which the oil industry generally expects to be enacted promptly when it reaches the voting stage. In general it outlaws the interstate movement of petroleum produced in violation of state regulations. A similar act is credited with making possible the control of the East Texas field.

NAVAL OIL RESERVES

Bills to increase the power of the secretary of the navy over the naval oil reserves have been introduced by Senator David I. Walsh, of Massachusetts, and Representative Carl Vinson, of Georgia. The bills, which are identical, would direct the secretary to take possession of all properties within the reservers; to conserve, develop and operate them in his discretion, and to use, store or sell the oil and gas products from them for the benefit of the United States.

The secretary could exchange lands and enter unit operating agreements for the purpose of consolidating and conserving the reserves, or could purchase or condemn land for this purpose. Existing leases would expire at the end of their initial 20-year periods, but they could be reissued with the reservation that the secretary at any time might modify the rate of prospecting and development. Leases would be denied citizens or corporations of a country not permitting Americans to lease public lands.

Senator Walsh has also introduced a bill permitting the secretary of the interior to deed public land to the state of Utah in exchange for title to section 2, Township 12, in naval oil shale reserve No. 2.

WALSH-HEALEY ENFORCEMENT

Enforcement of the Walsh-Healey government contracts act on the scale contemplated by the department of labor has been stopped by the action of the house of representatives by appropriating only $50,000 for administration of the act for the remainder of this fiscal year, which ends June 30. The department asked for $202,000, but the budget bureau cut this to $100,000. The house appropriations committee cut this in two, and its action was upheld by the house in passing the deficiency appropriation bill.

Hearings on the bill brought out that the labor department was planning to set up a rather large bureau with field investigators to check on com-

pliance with the act by government contractors, to examine sanitary and working conditions in plants, to go over employes' records, and particularly to make minimum wage determinations in a large number of industries. Gerard D. Reilly, assistant solicitor of the department and acting administrator of the government contracts section, told the appropriations committee that the department interprets the law as requiring the secretary to investigate wage conditions and determine minimum wages for a large number of industries as soon as possible, and that $1,000,000 could well be spent on this work in the next year. Representative James P. Buchanan, of Texas, chairman of the house appropriations committee, asserted a proper interpretation of the law requires a minimum wage determination only when complaints are made regarding a certain industry. The chairman also attacked plans for checking up on government contractors, saying that the law will be largely self-policing, in that holders of government contracts will be willing to certify compliance with the Walsh-Healey act in order to keep their contracts and secure additional work, while firms not desiring to abide by Walsh-Healey labor standards will not seek contracts and the government should not interfere with them. He also criticized efforts of organized labor to use government purchasing as a means of securing federal regulation of all industry.

CONSUMER COOPERATIVES

The special commission which President Roosevelt sent abroad last summer to investigate the consumer cooperative movement in several European countries is about ready to submit its report, and the indications are that it will make no specific recommendations but will simply set forth conditions as observed. Probably the only recommendation regarding co-ops in this country will be that if the president is still interested in the subject he have this or another group make a similar factual study of conditions here. By declining to recommend that the government take active steps to subsidize or otherwise promote the growth of consumer cooperatives in the United States the committee will allay fears aroused among business men last summer that the administration was considering a drive against the profit motive in private business through use of the cooperative idea. The oil industry would be one of the first industries to be hit by government-fostered co-ops since cooperatives have already made inroads in this field, and the retailing of gasoline, furnace oil and kerosene is relatively simple.

PRICE MAINTENANCE LEGISLATION

Early passage by congress of the Tydings-Miller fair trade bill is expected, following hearings held last week by the house judiciary committee. The bill would amend the Sherman antitrust act to permit contracts to be made in interstate commerce for the purpose of fixing resale prices on trademarked goods for sale in states permitting such contracts to be made within their jurisdictions. Some 16 states already have such laws, and the supreme court has upheld their constitutionality.

TO RESTORE NRA OBJECTIVES

Legislation to restore the principal objectives of the NRA is definitely considered by President Roosevelt. A number of plans have been presented to him, but he is not yet ready to commit himself to any one of these, although it is believed his ideas on the subject are pretty well crystalized. He feels that there must be federal laws to outlaw child labor, fix minimum wages, limit the working week, and insure collective bargaining by employes, and he is also satisfied that this can be done without an amendment to the constitution.

This subject has been discussed by the president in a number of conferences he has held recently with business men, labor leaders, and government officials. Probably as a result of these conferences, Frances Perkins, secretary of labor, has announced that she will ask congress to enact a law or a series of laws covering these four points. Many bills dealing with these subjects have already been introduced in congress.

Coupled with this plan may also be a proposal for further regulation of trade practices in industry through modification of the antitrust laws or more detailed definitions of unfair trade practices.

STRIKE SITUATION

Further intrusion of the federal government into industrial labor relations will probably result from the sit-down strike now in progress in plants of the General Motors Corp. Secretary Perkins threw a bombshell into the situation by declaring that the legality of sit-down strikes has not yet been determined. Most legal authorities agree that there is no warrant in law for employes to seize a plant and prevent its operation or prevent other employes from entering, and if the sit-down is made legal by new state or federal laws or court decisions it will become a powerful weapon for organized labor and will be a major step toward breaking down traditional property rights.

STREAM CONTROL

Out of the present flood situation may develop a new national policy of control of navigable rivers and their tributaries which will include not only flood-prevention but stream pollution and electric-power production. Sentiment is growing for integration of the federal government's interest in water conservation and the proper use of rivers and for better cooperation with the states in working out these problems.

Trial of Madison Cases Scheduled for June 1

MADISON, Wis., Feb. 1.—Trial of the first cases arising out of the government's antitrust prosecution of major oil companies was scheduled to open June 1 under an agreement proposed by defense attorneys in federal court here today. Judge Patrick T. Stone set the date, subject to 30 days' notice if the parties involved find that they cannot be prepared by that time.

Contradictory to charges of government counsel that defense moves have been prompted by desire to obtain undue delay, attorneys for indicted individuals, with four exceptions, offered to waive removal hearings on behalf of their clients and go to trial June 1 if the government would elect the indictment on which it chooses to proceed first and not attempt to force trial before that time.

The trial will proceed, it was announced, on an indictment charging a conspiracy to maintain artificial gasoline market prices through a cooperative buying pool. Two such indictments are pending, one returned on July 28, 1936, and the other on December 22. The government will elect its choice between the two, said J. H. Lewin, special assistant attorney general, "as soon as the defendants notify us that they have filed all the motions they intend to file."

JUDGE COMMENDS

Judge Stone commended the agreement as "real progress" and voiced recognition that the defense will confront a difficult task in completing preparations by that time. The waiver of removal hearing, defense attorneys noted, represent a long step in elimination of delays, pointing out that there are cases on record in which such preliminaries extended over periods up to two years. All indicted corporations, except Standard Oil of Indiana which has filed demurrers to both the "buying pool" indictment and another charging a conspiracy to restrict jobbers' margins, and the Gulf Refining Companies, waived arraignment and entered pleas of not guilty to the "jobbers' margin" indictment. Argument on their several demurrers to the "buying pool" indictment will be heard on March 3.

On that date the indicted individuals, nearly 70 in all, will be arraigned under the schedule adopted today. At that time Judge Stone will rule on demurrers, a petition for release of grand jury witnesses from the oath of secrecy and a motion to suppress evidence.

He will also rule on a petition by Ralph Horween, counsel for the Western Petroleum Refiners Association and eight affiliated independent companies, for return of documents produced by them under subpoenas, and a motion by Tide Water Oil Co. for dismissal of the indictment as far as it is concerned by reason of its dissolution last September.

Horween argued today that the clients he represents were not indicted and are entitled to return of their records. "You don't feel slighted, do you?" the court inquired. "Would you like to get in?"

The attorney's motion was opposed by Lewin, who declared the petitioners are not defendants, "unluckily for them," but they were accused of participating in the "conspiracy," he pointed out, and the papers they produced are "valuable evidence" necessary to trial of the case. Stone accepted Horween's brief.

Archie D. Gray, representing the Gulf companies, deferred acceptance of the agreement to waive removal hearings not set for March 8 and March 22 for four individual clients, J. F. Drake, president, William V. Hartmann, vice president, H. C. Meyer, all of Pittsburgh, and O. H. Carlisle, Houston, Tex., but indicated that they may join in the waiver later.

JURISDICTION UPHELD

The plea of Mid-Continent Petroleum Corp., Tulsa, to the court's jurisdiction was overruled by Judge Stone, whereupon Attorney J. C. Denton entered a plea of not guilty on the "jobbers' margin" indictment and noted a demurrer to the other indictment.

Attorneys for all the publications that have been indicted joined in the removal waiver.

Judge Stone today modified his order impounding documents produced before the grand jury when government counsel agreed to waive insistence upon signed stipulations for return of documents removed by the defendants within 30 days before trial. Stone placed responsibility for return of the documents upon the defense attorneys.

The government also, through H. E. Chaffetz, associate counsel, modified its position in regard to the secrecy oath. It is willing, Chaffetz said, to have the secrecy oath remitted on representation by defense counsel that witnesses have hesitated to talk frankly but is not waiving the oath for the purposes of any "fishing expeditions" to obtain grounds for dilatory motions, he said.

While Judge Stone agreed to accept further citations on the question, however, he indicated reluctance to depart from a "long established policy" in regard to secrecy of grand jury proceedings, he would hesitate a long time, he said, if he thought that remission of the secrecy requirement would result in "wholesale discharges" of witnesses, most of whom were employes of oil companies and whose testimony figured in their indictment.

Arguing the question, Col. W. J. Donovan, chief counsel for 17 of the indicted corporations, denied that there was any danger of "reprisals" on the part of the corporations and reiterated his previous contention that the need for secrecy in regard to testimony ended when the grand jury completed its work.

Fourth Well Drilled on Coastal Louisiana Salt Dome Finds Oil

By L. G. E. BIGNELL

Open pit into which Barnsdall-Pan American Oil Co. No. 1 Harang cleaned itself

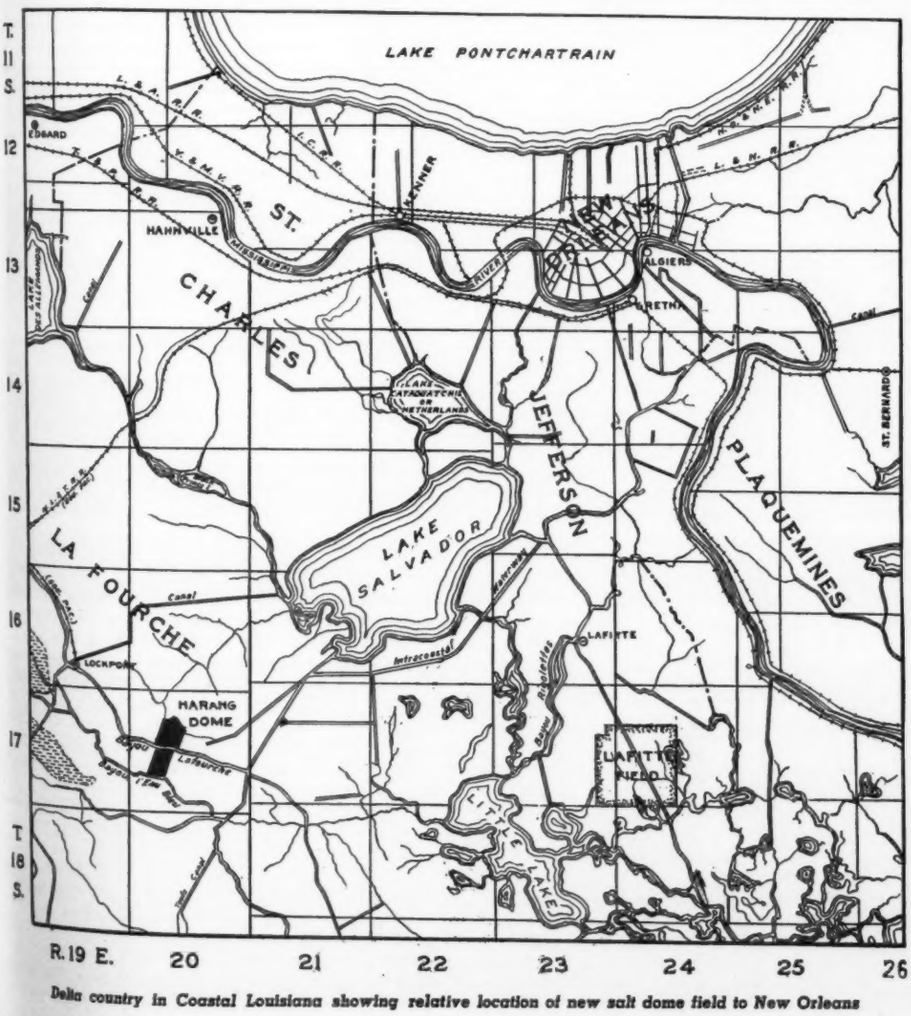
The No. 1 Harang of the Barnsdall Oil Co. and Pan American Production Co., located in the Lafourche Parish in southern Louisiana and completed the last day of 1936, appears definitely to have established a new salt dome for development in the Louisiana Gulf Coast area. The well is now producing from a depth of 6,977 feet through a 20/64-inch choke at the rate of 560 to 571 bbls. of 39.2 A.P.I. gravity oil at a 68° F. temperature. The gas-oil ratio is 445 feet, with a tubing pressure of 330 pounds and a casing pressure of 690 pounds.

The well has attracted considerable attention not only because it adds to the supplies of crude available, but also because it was the fourth test of the dome and was drilled under unusual operating conditions. Previous efforts failed to get commercial production.

The Barnsdall Oil Co. drilled the first test on this salt dome in 1934, finding salt at 6,975 feet. No. 2 was then drilled by the same company to a total depth of 7,216 feet, but no salt was found. The third test was drilled by Barnsdall to a total depth of 6,252 feet and plugged back to about 4,500 feet. Upon redrilling, it entered the salt at 6,586 feet, but lost this second hole and drilled out a third time to find a sand showing some gas and oil at depth of 6,315 to 6,365 feet.

The history of this development dates back to early in 1934 when the Barnsdall's land department blocked about 3,400 acres belonging to more than 30 individuals and company owners. About 1,900 acres of this land was on the right descending bank of the Bayou Lafourche and all of it was in the form of arpent tracts. The land was communized into blocks ranging from 410 to 560 acres each for drilling units. Of the original holdings, Barnsdall and Pan American now control about 2,400 acres lying over the top of the salt dome as disclossd by geophysical exploration. It is on this 2,400-acre tract the new discovery was made.

Bayou Lafourche was one of the important waterways between the Mississippi River and the Gulf of Mexico until the stream was cut off by a dam above Donaldsonville after the building of the levees on the Mississippi River. Following an old custom of laying out all parcels of land so that each faced upon the bayou, this country is cut up into hundreds of strips, each about 192 feet wide and extending back from the bayou 7,650 feet. These tracts are known as arpents. The custom was necessary because the bayou formed the only means of transportation in the early days of this settlement.



Delta country in Coastal Louisiana showing relative location of new salt dome field to New Orleans

OLD FRENCH SETTLEMENT

Out of this custom has grown an unusual settlement. For about 100 miles along each bank of the Bayou Lafourche there are villages and homes of the farmers spaced about 200 feet apart. The old dirt roads along this bayou have been paved, and now there are two good highways paralleling this stream, one on each side. The bayou is about 30 feet deep and 100 feet wide. It forms the drainage medium for this area and the farms are cultivated for about 2,000 to 3,000 feet back from the stream. Beyond that distance back from the water the land is covered with cypress swamp, and geophysical crews used swamp buggies and boats to go about their work.

As the importance of the sugar-cane crop increased, several large sugar refineries were built in this region and one of them is served by a branch line of the Southern Pacific Railroad. This branch terminates at Valentine and was the means of transportation of the machinery used in drilling these wells to that town and from there this material was moved to the drilling locations by trucks.

The steel derricks are erected upon board mats because it is impossible to excavate for concrete piers or foundations in this wet ground. If the surface is disturbed even to the depth of 4 to 6 feet, water quickly enters the hole, and any building or heavy piece of equipment erected over this wet spot will sink.

To avoid this, it is common practice to make grades for derricks and tanks by dumping earth upon the top of the soil and then placing mats made of rough boards upon this built-up grade. This condition usually precludes the use of cellars

under the derricks, although it is understood one 7 feet deep was dug under the derrick at No. 1 Harang location. In addition to this cellar, the derrick is supported upon an 8-foot substructure so there is ample headroom under the derrick-floor for connections.

The Barnsdall-Pan American test was drilled with a heavy steam-powered rotary and about 200 feet of 16-inch diameter spiral pipe was used for the string of surface casing. The hole then was reduced to 12¼-inch diameter and approximately 1,500 feet of 10¾-inch casing was set and cemented. Again the hole was reduced and drilled to the top of the Shoal River producing formation found in No. 1 Harang well at 6,770 feet. This Shoal River sand is of late Miocene age and was cored and carefully checked. A drillstem test was made in this core-hole when the top of the saturated sand was found at 6,895 feet. This test showed 4 joints of oil, 3 joints of sand and 6 joints of drilling-mud in about 2 minutes at 25 pounds pressure. This indicated the presence of gas and oil and the drilling of the full size 8¼-inch hole was continued through the producing formation to a total depth of 6,973 feet.

When the electric coring device was run in this well it indicated good saturation from 6,895 to 6,973 feet, the bottom of the hole.

This electric coring also revealed the presence of a well saturated section between 5,380 and 5,435 feet which will be given careful test in No. 2 Harang now being drilled.

A string of 7-inch casing was run and set on bottom. This casing was cemented with about 500 sacks of cement to shut off possible bottom-hole water, although none had actually shown in the hole or on running the electric coring device. The electric core was made before the casing was run and it indicated good saturation from 6,930 feet to 6,950 feet and after the cement had time to set this section of the 7-inch casing was perforated with 20 gun perforator shots. This opened the producing sand and the mud was then washed out of the casing and the well made 606 bbls. of 34.5 gravity oil in 24 hours, producing 365 bbls. of this oil through a three-eighths inch choke during the last 12 hours of the test.

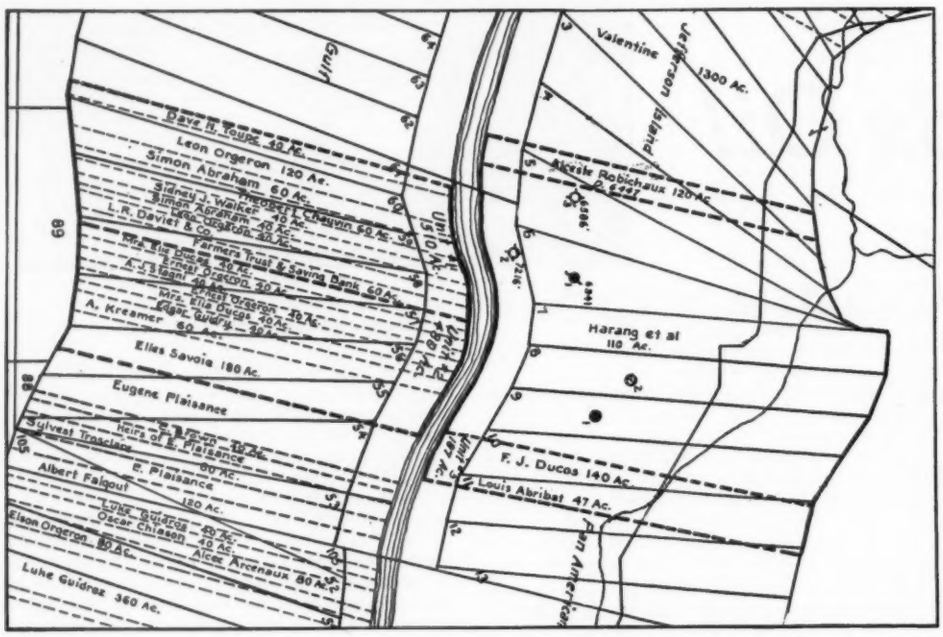
This well was tubed with 2½-inch tubing after a section of screen pipe had been set with packer opposite the sand. This precaution was taken because considerable sand was entering the bottom of the hole along with the gas and oil through the gun perforation holes.

With the tubing in position, the well was given several tests through varying diameter chokes ranging from 20/64-to three-eighth inch openings and registered about 500 pounds pressure on the tubing at the well-head and 850 pounds pressure on the casing during the test periods. The well is now producing through a 20/64-inch choke at the rate of 560 to 571 bbls. of 39.2-gravity oil at 68° F. temperature with a gas-oil ratio of 445 feet and tubing pressure of 330 pounds and casing pressure of 690 pounds.

This discovery is considered of importance because it has opened another good-sized salt dome in the Mississippi River delta country and the companies interested were fortunate in finding the production on this dome in their fourth attempt. The No. 2 Harang well is now being drilled and is located north of the No. 1 Harang.

To move the oil being produced from No. 1 Harang a short pipe line has been laid to the loading-dock on the Bayou Lafourche and the oil is being moved in barges down this stream to the point where it crosses the Intracoastal Canal. The barge then moves through the canal to the Mississippi River and up that stream to the refinery at Baton Rouge. This barge movement could be to the west to Beaumont or Port Arthur if desired.

Because of the proximity of this new discovery to the town of Valentine, it is known as the Valentine field and it promises to be one of the major salt-dome fields opened along the Gulf Coast during 1936. There were six new salt-dome fields opened in Coastal Louisiana, including the Valentine field, during 1936, and there are still many other good geophysically mapped areas to be tested. With the knowledge gained in these recent discoveries it is probable several new salt-dome oil fields will be opened in this Louisiana coast region this year.



Barnsdall Oil Co.-Pan American Oil Co. 2,400-acre tract in Valentine field, Lafourche Parish, La.

Seismographic Patent Suit Is Being Settled Out of Court

HOUSTON, Tex.—Settlement of the suit of the Texas Co. against the Sun Oil Co., involving the Mintrop and McCollum seismographic patents, right to which the plaintiff claims to have obtained in 1932, is being arranged out of court, it is understood.

R. J. Dearborn, president of the Texaco Development Corp., who has been in Houston in connection with the case, has returned to New York, where formal papers of settlement will be drawn up and submitted by his company to the defendants. The proposed settlement has been worked out through the efforts of Mr. Dearborn and George A. Smith, attorney, representing the Sun Oil Co.

Involved are upwards of 30 oil companies and geophysical exploration companies, against which the Texas Co. has claims for use of geophysical exploration methods considered infringement upon the Mintrop and McCollum patents.

It is understood that under terms of the settlement members of the primary group of major companies who have borne the burden of defense are each acquiring a release and license from the Texas Co., and that a release and license under the same terms will be offered to the numerous members of the secondary group. Each member of the group involved in the settlement, both primary and secondary, is to account for his releases and licenses, it is said, on the basis of $10,000 per seismographic party, with the understanding that a completely paid-up license for an unlimited number of parties for personal use of the licensee can be acquired for a total payment of $125,000. Mr. Dearborn is to meet representatives of all companies concerned in Houston February 19.

THE MARKETS*

CRUDE OIL: *Price advances, awaited since Continental last December 4 announced a 17-cent raise, effective January 4, materialized the past week. The advances, lower than Continental's postings, were general throughout the Southwest, Rocky Mountain and Middle Western areas. Continental posted a new schedule, harmonizing with those of the other companies. Demand for crude continues urgent.*

REFINERY: *Marking up of tankcar prices followed the crude advances, and market position generally considered healthy. A sharp rise in demand for heavy industrial fuel revealed pronounced scarcity of this material. All burning oils, along with kerosene and tractor distillates, tight and commanding higher prices.*

TANK-WAGON AND SERVICE STATION: *Companies have begun advancing tank-wagon gasoline prices in line with tankcar increases. Standard of New Jersey added a half-cent throughout its territory except Delaware. Standard of Louisiana and Texas Co. advanced gasoline a half-cent. Standard of Indiana advanced gasoline .3 to .6 cent in Michigan. Raises in other scattered points were reported.*

FINANCIAL: *In an irregular market the oils made a creditable showing, with California issues among the more active. Average of 30 representative stocks for week ending January 30: High, 43.61; low, 41.60; close, 43.03. Week ending January 23: High, 43.25; low, 41.37; close, 42.94.*

**Detailed information in Market Section.*

OBITUARIES

JACK DAVIS, in the scouting department of the Humble Oil & Refining Co. for a number of years, died recently in the U. S. Veterans Hospital in Tucson, Ariz.

JAMES G. CLOUD, 52, Tulsa, died suddenly of a heart attack in Dallas, Tex., recently. He was president of the Great Plains Oil & Gas Co. and Tri-Plex Oil Co. He was formerly a vice president of the Independent Petroleum Association of America. He was a Mason and Shriner. Funeral services were held in Tulsa February 1.

CHESTER L. KERR, treasurer of United Gas Co., Los Angeles, Calif., died recently. He entered the oil business in 1909 and was a pioneer in natural gas operations. He also was one of the first sellers of liquefied gas. He formerly lived in Titusville, Pa.

LIONEL D. BAXTER, assistant general manager of the West India Oil Co., S.A. Petrolera Argentina in Buenos Aires, died recently following an operation. He had been with the West India company, marketing organization of the Standard Oil Co. of New Jersey in Argentina, since April, 1912.

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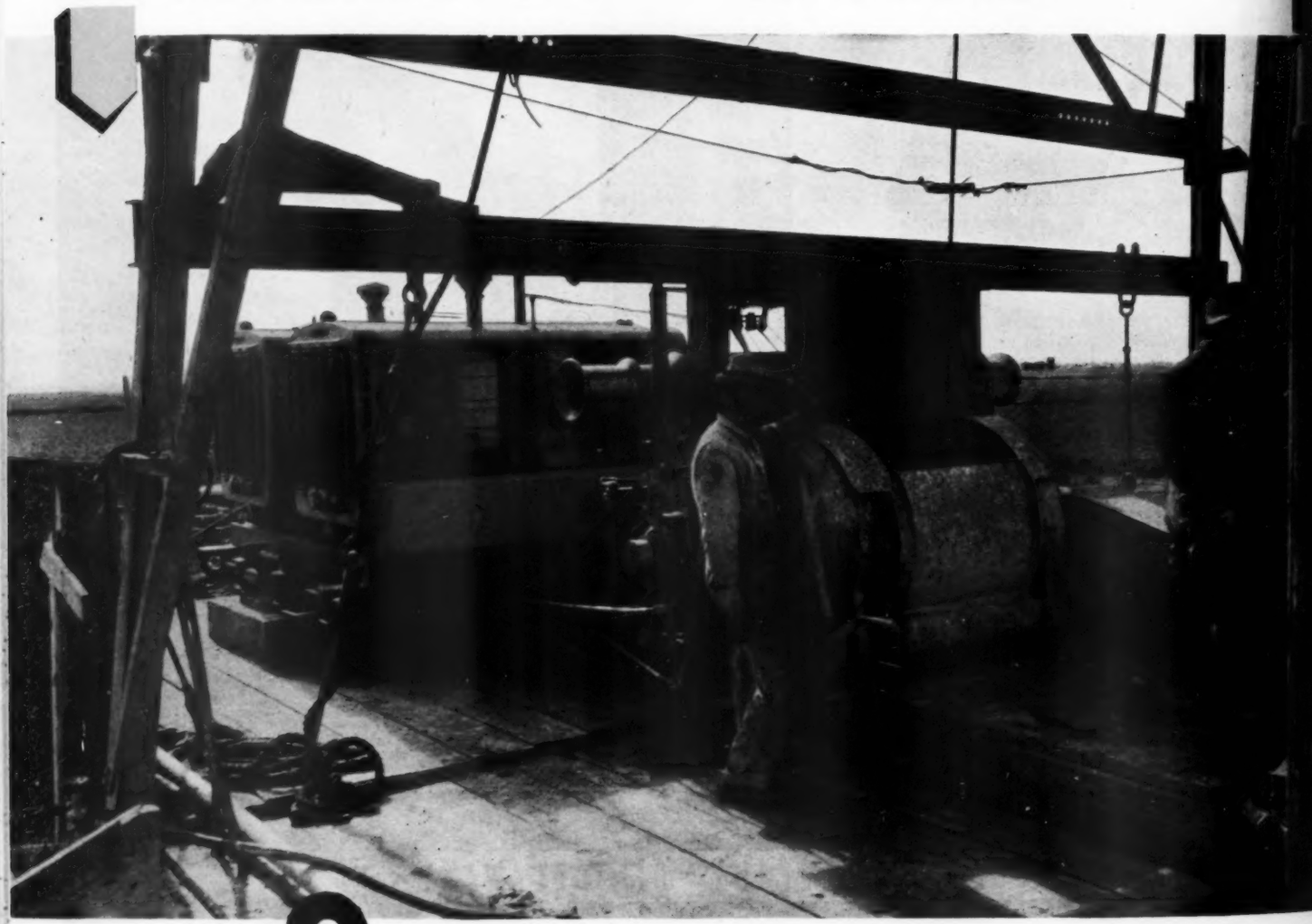
Two "Caterpillar" Diesel Engines powering a rotary drilling rig north of Corpus Christi. Special transmission and clutch arrangement permits a flexible and centralized control of all operations. Fuel consumption varies from 1000 to 1200 gallons of low-cost Diesel oil for drilling a 4000 to 5000 foot well. Engine bases are made up of "I" beams so that units can be readily transported.

Close-up of twin engine installation on oil rig with special transmission and clutch arrangement. This allows separate engine drive on mud pump and drill; or both engines may be engaged to power the draw works. Controls are linked so that engines and clutches may be governed from driller's stand.



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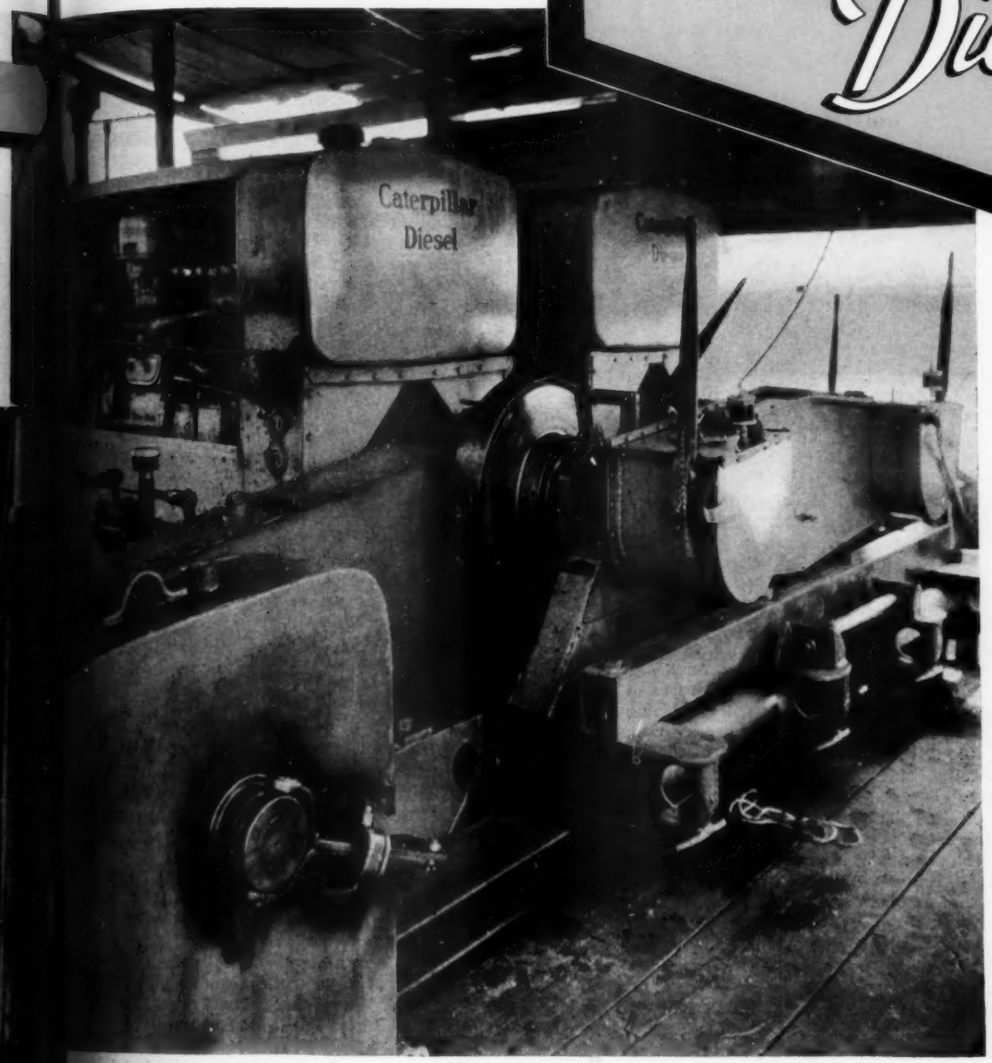


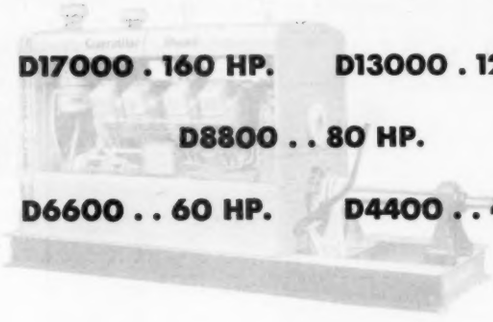
ONLY in details do the stories of savings, efficiency and dependability differ among users of "Caterpillar" Diesel Engines. Here are two installations on rotary drill rigs in the Texas oil fields. Using low-cost fuel, and constructed for long life and low up-keep, "Caterpillar" Diesels provide either shaft or generating power at a cost far below that obtainable from any other type of power. *Find out about them.* There's a dealer near you—with factory-trained service men and stocks of machines and parts.

"CATERPILLAR" DIESEL ENGINES ARE AVAILABLE IN FIVE SIZES:

D17000 . 160 HP. **D13000 . 125 HP.**

D8800 . . 80 HP.

D6600 . . 60 HP. **D4400 . . 44 HP.**



RDIESEL ENGINES

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DEPARTMENT OF GEOGRAPHY

Crude Price Increase General in Most of Country's Fields

By DAL DALRYMPLE

The long anticipated break in the crude oil price impasse came the past week when the Humble Oil & Refining Co. posted advances for Texas and New Mexico, the Carter Oil Co. following with advances for Oklahoma and Kansas. In rapid order thereafter other companies fell into line. The Standard Oil Co. of Louisiana announced new schedules for Louisiana and Arkansas, Ohio Oil Co. set the pace for the middle western states and other purchasers announced higher schedules for the Rocky Mountain areas. The new schedules are generally effective as of January 28 and vary as to districts, ranging from about 3 cents to as high as 15 cents a barrel in some regions. The increase averages around 12 cents a barrel.

This means that producers will receive approximately $100,000,000 more for their crude oil in 1937 than in 1936. It is estimated the increase will amount to more than $125,000 a day in Texas, or about $46,000,000 during the year. The Oklahoma increase, estimated on current production, will amount to around $70,000 daily, or about $26,000,000 annually. Roughly estimated, it means about $30,000 daily increase for Louisiana producers, or better than $10,000,000 a year; and some $21,000 daily or upward of $7,600,000 annually for Kansas. Other oil states in which prices were advanced benefit proportionately. Only California and the eastern areas were not included in the increases.

AFTER WEEKS OF UNCERTAINTY

The concerted move for higher prices came after weeks of uncertainty, following the 17-cent increase announced early in the month by Continental Oil Co., and followed by Barnsdall Oil Co. Dan J. Moran, president of Continental, announced that his company would adopt the new schedule put into effect by the major companies.

"Continental's original action," said Mr. Moran, "merely recognized a statistical and economic situation that was apparent from all of the facts available to us and to others. Obviously, however, Continental Oil Co., regardless of statistics and economics, cannot indefinitely continue to pay higher prices for the raw product than are paid by our competitors and we are therefore going along with them in this adjustment which, while not as large as we had hoped to accomplish, will nevertheless serve as substantial recognition of what is justly due the producers."

While the price increase was not as large as some had hoped, feeling that the 17-cent advance posted by Continental was justified, many producers expressed themselves as satisfied for the time with the new schedules. There was one loud complaint, however, followed by a threat of another "investigation." West Texas producers protested against the base price posted by Humble and other companies, insisting the increase meant practically nothing in West Texas field. The posted price in the Yates field for 29-30 gravity had been 85 cents a barrel. Under the new schedule the price is 78 cents for 25 gravity, with a 2-cent differential upward. This means, the West Texans contend, only 86 to 88 cents for 29-30 gravity oil. News dispatches state that two Texas senators announced they would ask for a legislative committee to investigate the possibility of "discrimination against West Texas oil."

The new schedule of the Humble Oil & Refining Co., largest buyer in Texas, included a 12-cent increase for the East Texas field, from $1.15 a barrel to $1.27. Other areas in eastern Texas increased prices 12 cents. West Central Texas and Texas Panhandle were given 10-cent increases. West Texas and New Mexico prices were hiked 10 cents, with an extended gravity schedule providing for further grading of higher- and lower-gravity oils. Prices for Conroe, Tomball, Raccoon Bend (deep sand) and Satsuma crudes were advanced 10 cents, ranging from $1.20 for below 29 gravity with a 2-cent differential to $1.44 for 40 gravity and above.

The Carter Oil Co.'s new schedule for Oklahoma included a straight increase of 12 cents for each grade of crude. The new rates range from 98 cents for below 25 gravity and $1 for 25-25.9 gravity, with a 2-cent differential upward to $1.30 for 40 gravity and above. Gulf Oil Corp. announced an increase from $1.08 to $1.20 for Altus and Tipton, Okla., crudes.

Skelly Oil Co. took the initiative in Kansas, posting a schedule identical with that of the Carter Oil Co. in Oklahoma.

Increases posted by the Standard Oil Co. of Louisiana for Louisiana and Arkansas ranged from 12 to 15 cents. All grades of Rodessa crudes were advanced 15 cents, with a 2-cent differential ranging from 93 cents for below 25 gravity to $1.25 for 40 gravity and above.

Smackover, Ark., crude was increased 15 cents to a flat 90 cents.

Schedules for the regular North Louisiana and Arkansas fields were hiked 12 cents, ranging from 90 cents for below 25 gravity, with a 2-cent differential upward to $1.22 for 40 gravity and above.

The Placid Oil Co., successor to H. L. Hunt, Inc., advanced the posting for Tullos and Urania crudes from 97 cents to $1.02.

Phillips Petroleum Co. announced a flat rate of 90 cents for all gravities of Union and Ouachita counties, Arkansas, an increase of 15 cents.

Ohio Oil Co.'s price increases for Middle Western states ranged from 10 to 12 cents. Lima crude was advanced from $1.15 to $1.25; Illinois and Princeton, from $1.23 to $1.35; and western Kentucky, from $1.28 to $1.40.

The Ohio company also announced the following advances in the Rocky Mountain district: Sunburst, Montana, from $1.15 to $1.20; Elk Basin, Wyo., from $1.18 to $1.30; Grass Creek, light, $1.18 to $1.30; Lance Creek, 85 cents to 97 cents; Big Muddy, $1.11 to $1.23, and Rock Creek, $1.08½ to $1.20½.

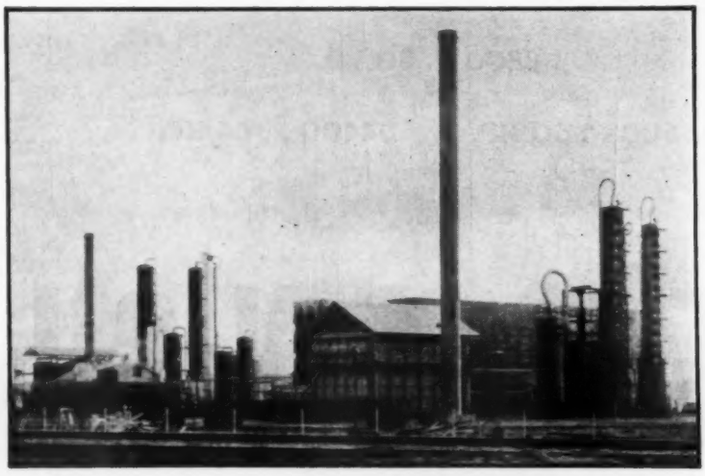
Stanolind Oil & Gas Co. announced the following Rocky Mountain advances: Iles, Colo., light, $1.06 to $1.18; Iles, heavy, $1 to $1.12; Hogback, N. Mex., $1.21 to $1.33; Frannie, Wyo., 62 cents to 82 cents; Greybull, $1.28 to $1.30, and Torchlight, $1.28 to $1.30. Stanolind's schedules for Elk Basin and Grass Creek were the same as those of the Ohio company.

NOT ALL LIKE HUMBLE'S

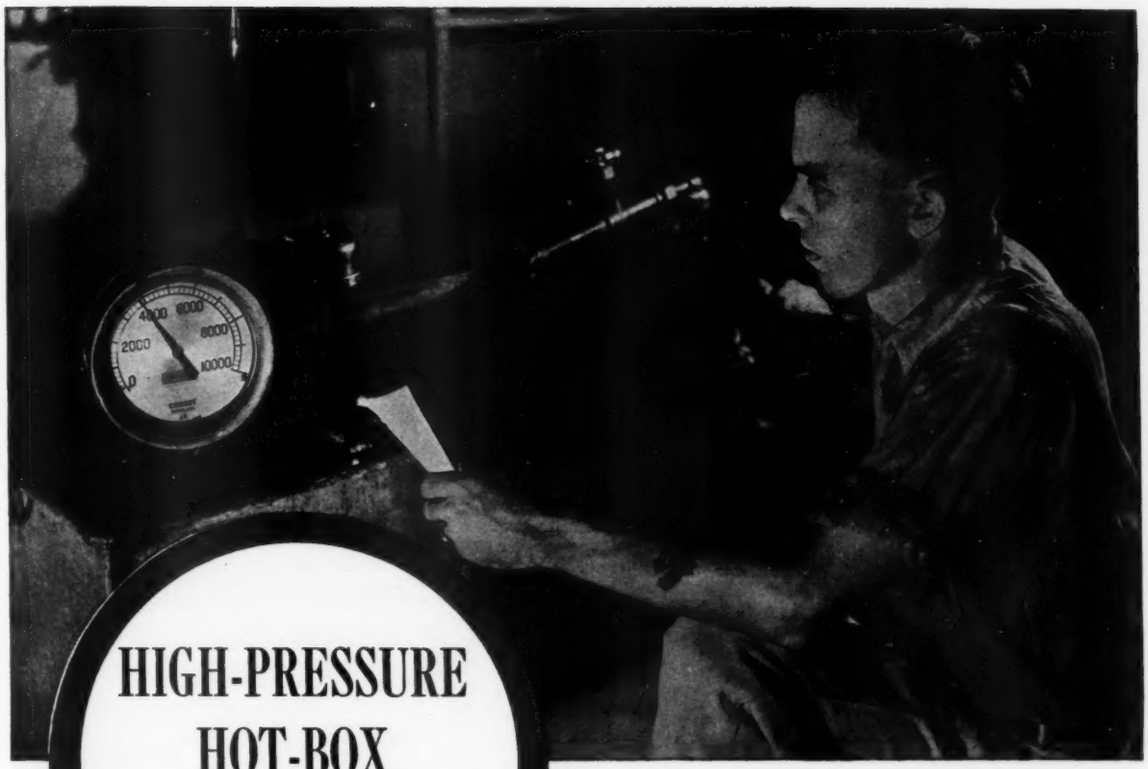
All the company schedules were not identical with those of the Humble postings. While Humble gave West Central Texas a 10-cent increase, Magnolia Petroleum Co. and some other buyers gave that district a 12-cent increase, as was the case with North and North Central Texas. The Magnolia, Texas Co., Sinclair Prairie Oil Marketing Co., Shell Petroleum Corp., Stanolind Oil & Gas Co. and Bell Oil & Gas Co. quoted North and North Central Texas schedules ranging from 96 cents for below 29 gravity to $1.20 for 40 gravity and above. Magnolia met the Humble prices in Texas Panhandle, West Texas, East Texas, Mirando, Tomball, and Darst Creek, and met the Carter Oil Co. schedule in Oklahoma. Magnolia's schedule for Rodessa was almost on the same schedule as that of the Standard of Louisiana for North Louisiana and Arkansas, the top price being $1.22, as against Standard's $1.25.

The Texas and Sun companies met Humble's advances in the fields where they post. The Texas Co. posted $1.25 for Cass County, Texas; $1 for Duval County, Texas; $1.24 for Lafitte, La., and $1.37 for Garden Island, La., among other postings. The Sun raised Clay Creek from 95 cents to $1, and at Government Wells replaced a 90-cent flat price with a gravity schedule ranging from 90 cents for below 21 gravity and 93 cents for 21-21.9 gravity to $1.02 for 24-24.9 gravity, with a 3-cent differential.

In the Panhandle, Wilcox Oil & Gas Co. posted a schedule ranging from 96 cents for below 35 gravity to $1.08 for 40 gravity and above for Gray County crude. The Sinclair Prairie schedule for Gray County was identical. The Phillips and Shell companies posted schedules ranging from 84 cents to $1.08 for Panhandle sweet crude and 79 cents to $1.03 for Panhandle sour crude, and the Texas Co. schedules were similar.



The newly enlarged refinery of the Corpus Christi Refining Corp. located a few hundred feet from the local port, and situated on the edge of the Corpus Christi field



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Lone Star research chemists built a high-pressure box, then put it in a high-temperature water bath. Many cements of varying composition were made into slurries and subjected to high pressures and temperatures. Results were carefully studied and reasons why some cements behave well and others do not were learned.

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This is one of many tests, made over and over again in the Lone Star research laboratories, part of the study required to answer the question, "How to make the kind of cement oil men are asking for?" Painstaking research produced the answer. We call it 'Starcor', the Oil Man's cement—because it gives the oil man the kind of cement he wanted, and not just our idea of what he should have.

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'Starcor' is slow setting at high temperatures, easily pumpable in 16-lb. slurry, stays gel-like to resist mud contamination, also resists action of sulphate waters—and 'Starcor' hardens quickly to form a strong, dense, uniform core—you can drill out in 3 days. Chemical analyses of cuttings are usually the same, item for item, as the original cement.

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It's a Portland cement—no admixtures used or needed. In 'Starcor', we have met a special need with a special-purpose cement—a cement with the same outstanding quality and uniformity as Lone Star and 'Incor'*—plus the special properties of an Oil Man's cement.

Use 'Starcor'* on your next job—see for yourself what an important step ahead it really is. Lone Star Cement Corporation, Dallas . . . Houston.

* Reg. U. S. Pat. Off.

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Oil News from Foreign Lands

Solving Mexico's Labor Problem

Negotiations are proceeding so slowly between private oil companies, labor and the government on the proposed contract law to cover all petroleum working conditions that completion seems improbable by May. Under terms of a strike order suspension last November, representatives of labor agreed to continue work providing the contract law negotiations were completed by May.

Conversations between representatives of the various elements involved were halted abruptly three weeks ago when high government officials ruled in favor of the oil companies who opposed inclusion of stevedors in the general classification. Negotiations since have been resumed, however, and participants in the conferences have not dispaired of reaching an agreement within the time limit set.

New Pedernales Well

Production in the Lake Maracaibo district of Venezuela had returned to practically normal rates at the end of last week following termination of the labor strike which lasted from December 14 to January 25. Up until January 25 with a general return of strikers to their jobs, companies had been producing only small percentages of their normal yield from flowing wells. Settlement of the strike was hastened by the firm position taken by the president who declared that it must be terminated and issued instructions to high administrative and army officials to do so.

Completion of Standard Oil Co. of Venezuela No. 1 Coterro on the mainland in the Pedernales-Amacurro district was probably the outstanding field development reported last week. The No. 1 Coterro was completed for initial production of 600 bbls. daily at total depth of 5,941 feet. Establishment of production on the mainland probably will lead to an intensified development program. Previous completions in that district had been on submerged lands involving costly substructures and devotion of much time to preparing the drilling sites.

Germany Spurs Hydrogenation

A restricted list of petroleum distillation residues are being admitted duty free in Germany, under customs control, for hydrogenation. The decree eliminating duties on certain residual products was issued by the German Minister of Finance, effective January 25.

The privilege of importing residual petroleum duty free is applicable only to concerns carrying on a similar import business during 1935.

The German action was interpreted as another step to induce internal manufacture of motor fuel and lubricating oil toward fulfillment of efforts to make the nation independent of outside sources for these products.

Early abolition of the German decree making use of ethyl alcohol in motor fuel mandatory is predicted in semiofficial sources due to the fact that other domestic sources are now yielding large quantities of synthetic motor fuel, the increasing and compulsory use of methanol, the growing shortage of animal feedstuffs and the general inefficiency of the product in gasoline. The required use of ethyl alcohol in motor fuels was originally established by the government as a form of financial aid for eastern Germany to absorb surplus potato crops. With reductions in animal feedstuffs, farmers are now feeding stock on potatoes and are no longer in need of the assistance.

In recent months, the government has reduced the required volume of alcohol blend from 10 to 8 per cent. Expansion of methanol manufacture from brown coal is proceeding on a broad scale and the market will absorb 80,000 metric tons of this product during the current year.

Fiume Refinery Expansion

Reffineria di Olii Minerali, S.A. (R.O.M.S.A.) at Fiume, Italy, is to be substantially expanded, Bernard Gotlieb, U. S. consul at Trieste, reports. The expansion is to begin immediately to permit capacity production by the end of 1937. When completed, this Fiume refinery, which specializes in lubricating oils, will be one of the largest in Italy.

The R.O.M.S.A. at Fiume is affiliated with the official Italian petroleum company (A.G.I.P.). It is estimated the present average output of the refinery is 80,000 metric tons. It used crude oil chiefly from the United States, Russia and Persia with occasional receipts from Poland. In prewar days it supplied a large part of the Near East, Northern Africa and the Austro-Hungarian empire with its products, whereas since the war, most of its products have been consumed within Italy. An attempt is being made to reestablish old connections and it is hoped prewar markets may be revived.

Production in Iran

Iran's official November crude oil production of 660,000 tons, or about 4,620,000 bbls., increased the total yield for 11 months in 1936 to 7,489,000 tons. While last November's production was nearly 85,000 bbls. below October's output, it was nearly 100,000 bbls. greater than for the same month in 1935.

Through 11 months last year, the production of approximately 52,423,000 bbls. was more than 5,000,000 bbls. over a total of 47,397,000 bbls. for the same period in 1935. Unless a sharp upswing in December production develops, Iran probably will fall short of the earlier estimates of 62,850,000 bbls. for the year.

Develop U.S.S.R. Reserves

Exploration in the Soviet's newer petroleum reserves during 1937 probably will reduce the heavy drain the U.S.S.R. has been making on the Baku district. In the U.S.S.R. Chamber of Commerce economic survey, Academician I. M. Gubkin described plans to increase production from districts other than Baku to about 42 per cent of the total. The writer declares that by the end of the current five-year period, Baku oil fields will be producing no more than 58 per cent of the Soviet petroleum supply.

The Soviets are counting heavily on prospective producing areas in Siberia and Kamchatka, and in vicinities of Ukraine, Stalingrad, Samara, Moscow and Leningrad. Definite evidence of petroleum deposits have been found in only a few of the areas listed as prospective areas. However, the Soviet author relates that structural conditions favorable to accumulation of petroleum have been definitely determined in all.

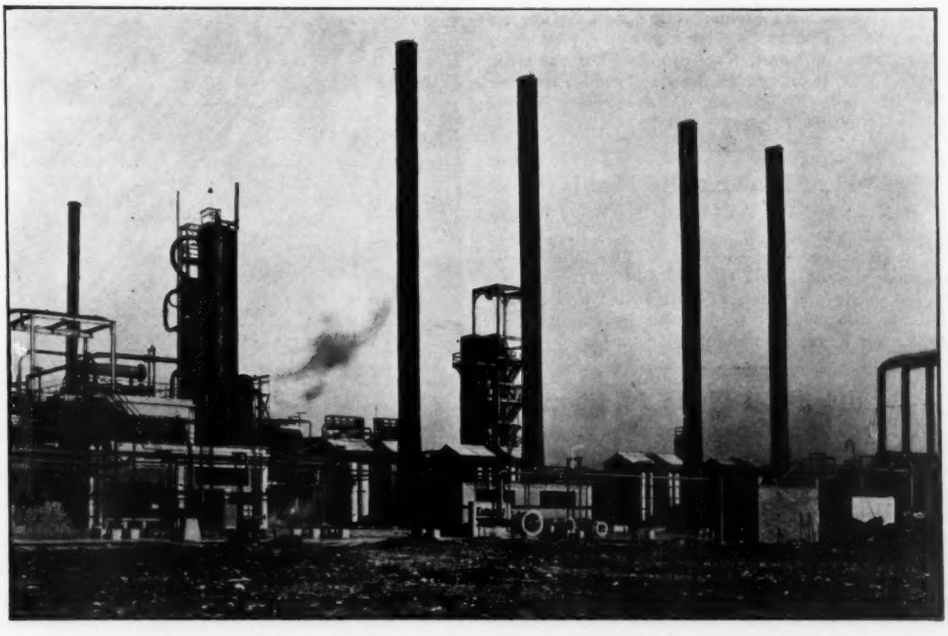
Evidence of oil-bearing sands have been definitely found in various parts of Siberia. Academician Gubkin lists the prospective producing areas in Siberia under four divisions, as follows:

1. The eastern slopes of the Urals by the Belays and Yugan Rivers.
2. By the Tolba and Amga Rivers in the Aldan districts.
3. On the northeast coast of Lake Baikal by the Angara River.
4. At Nordvik Cape, beyond the Arctic Circle.

Nearly 60 per cent of the Soviet refining capacity is now represented in pipe still units and the old batteries of shell retorts "inherited" from the oil companies have in most cases either been scrapped or are now used for various secondary processes such as the preparation of asphalt.

"The double-furnace Soviet 'Nefteproyekt' cracking installation," writes Gubkin, "is in every way as good as the most up to date American plant." At the Mendeleyev works near Yaroslavl a cracking plant of original design by the Soviet scientist, K. Dubroval, working on the steam-phase principle has been built. and is undergoing tests under working conditions.

Factory equipment for the production of lubricating oils has been radically reconstructed. About 70 per cent of the oil distilled for lubricating oils is treated in improved pipe installations. The old plant for the preparation of lubricating oils at Baku has been almost entirely scrapped and four large works using the contact filtration process have been built. Preparatory work is being done on the introduction of the method of purifying oils by the use of selective solvents.



Lubricating oil plant of Herbert Green & Co., Ltd., East Halton, Lincolnshire, England

Refinery Expansion

Install Gas Purification Plant

PITTSBURGH, Pa.—The Chartiers Oil Co. of Pittsburgh has awarded a contract for the construction of a natural gas purification plant at Wayne, W. Va., to Koppers Co.'s engineering and construction division. The plant will employ the new Koppers sodium phenolate process, and will recover 95 per cent of the hydrogen sulfide in the gas. It will have a capacity of 5,000,000 feet a day. Construction will begin in June, and the plant will be ready for operation by September.

This will be the third plant to employ this new Koppers patented process for the recovery of hydrogen sulfide from natural gas, coke oven gas and refinery still gases. The first was erected last year for the Standard Oil Co. of California at El Segundo. The second will be constructed this year for the Atlantic Refining Co. at Philadelphia.

Atlantic Plant Nears Completion

HOUSTON, Tex.—The new 20,000-bbl. refinery of the Atlantic Refining Co., located at Atreco, Tex., will be ready for initial operation on March 1, it was announced last week. The plant, comprising skimming and cracking facilities and a polymerization unit, is located at the deep-water terminal of the Atlantic Pipe Line Co. on the Neches River near Port Arthur. The company is bringing approximately 125 keymen from its Franklin, Pa., and Brunswick, Ga., plants, which are being closed down, to begin operation of the new refinery.

Pure Oil Work Progressing

HOUSTON, Tex.—Construction work is progressing rapidly on the new 14,000-bbl. combination-unit being erected at the Smiths Bluff, Tex., refinery of the Pure Oil Co. The Lummus Co., contractors for the installation, plan to have the unit ready to place on stream by March 1. All steel work is being completed, with the three furnaces and several towers nearing completion. The new combination skimming and cracking unit will increase the crude capacity of the refinery to a total of 54,000 bbls. per day, placing it among the major plants of the Gulf Coast.

Texas Sets Loading Record

PORT ARTHUR, Tex.—All records for overnight loading were broken at the Port Arthur refinery of the Texas Co. last week, as a 77-tankcar train moved out one morning bound for the flood areas. The train, which was followed the same day by another shipment of 20,000 bbls., carried fuel oil for use in power and light plants.

Plan Brownsville Plant

SAN ANTONIO, Tex.—Plans are being considered for the building of a small refinery in Brownsville, Tex., according to reports. The building of another pipe line from Hidalgo and Starr counties to the deep-water ports of Port Isabel or Brownsville is also under consideration by operators of producing leases in the inland counties.

Bradford Oil Plans Additions

BRADFARD, Pa.—Bradford Oil Refining Co. has received approval of the Securities and Exchange Commission of Washington for the sale of a block of securities. The company intends to use the returns from the sale of these securities to make improvements in its Bradford refinery. Erection of a modern cracking and reforming unit, a solvent dewaxing plant and additions to the boiler and filter house is contemplated. Approval was obtained to sell a group of underwriters $350,000 first mortgage, 6 per cent sinking-fund bonds and 150,000 shares of common stock of $1 par value. The underwriters are Thompson & Taylor Co. of Pittsburgh, and Bioren & Co. of Philadelphia, Pa.

Derby Remodeling Unit

WICHITA, Kans.—Derby Oil Co. has let contract for the remodeling of one of its Dubbs cracking units to increase the capacity and efficiency of the unit. The work, which is to be done by Pershell Engineering Co. of Wichita, is expected to increase the cracking capacity about 600 bbls. daily. The great part of the remodeling work will be done on the furnace and will consist of the addition of roof tubes.

To Open Hutchinson Refinery

WICHITA, Kans.—E. R. Shaffer, A. M. Ballard and associates have acquired the refinery formerly known as the Hutchinson Refining Co., in Hutchinson, Kans., and plan to reopen the plant after a four-year shutdown. The plant was designed to process 1,000 bbls. of crude daily, but present plans of the owners are to enlarge the capacity to 2,500 bbls. Mr. Shaffer is president of the new company, known as Shaffer Refining Co.; Mr. Ballard, vice president; A. B. Babb and J. C. Scheidel, directors; and Cal Calloway, secretary. Crude will be obtained from Shaffer wells about 12 miles distant.

To Expand Italian Refinery

WASHINGTON, D. C.—According to an announcement of the commerce department, the Fiume refinery of Raffineria di Olii, S.A., is to expand its lubricating oil manufacturing facilities. The refinery specializes in lube oils and uses a substantial volume of crudes produced in the United States. When the expansion has been completed the refinery will be one of the largest in Italy, its present output averaging about 80,000 metric tons annually.

Goose Creek Rate

GOOSE CREEK, Tex.—City Commissioner C. H. Tipton will ask the Railroad Commission to investigate rates charged residents for gas. The Goose Creek rate is identical with that charged Houston domestic consumers—65 cents per 1,000 feet. Gulf Cities Natural Gas Co., associate of Houston Pipe Line Co., serves the city.

Natural Gasoline

Glen Rose Extending Lines

RODESSA, Tex.—Glen Rose Gasoline Co. of Rodessa is extending its gathering lines throughout the eastern portion of the field in an effort to make up the shortage of gas at that plant resulting from the new Louisiana Rodessa allocation order. Other Rodessa plants are finding themselves in need of gas.

General American Plant Sold

FORT WORTH, Tex.—Humble Oil & Refining Co. is negotiating the purchase of General American Oil Co.'s 10,000,000-foot capacity natural gasoline plant at Reeds Switch in north Rusk County, Texas; gas purchase contracts involving some 900 wells connected to the plant, and a gas gathering system, according to reports. The plant was built in 1936 by the Gilliland Refining Co. and was one of the two Gilliland plants involved when that company was formed into the General American. Humble also operates two other large natural gasoline plants in the East Texas field. The purchase price involved in the deal was reported to be $1,250,000.

Lion May Purchase Plant

RODESSA, Tex.—Lion Oil Refining Co. is taking inventory of Rodessa Gasoline Co.'s 15,000-gallon capacity absorption gasoline plant in the eastern portion of the Rodessa field, and is regarded as a probable purchaser in the near future.

Interior of Natural Gasoline Corp.'s compressor house at its new gasoline plant in the Decker field, McPherson County, Kansas. Ten 260-horsepower, L-type compression units are used in the plant which has a 12,000,000-foot gas capacity

Pipe Line Activity

Eastern Line Establishes Record

NEW YORK.—A five-year peak was set in 1936 in petroleum handled by nine eastern pipe lines formerly in the Standard group. Traffic for the year increased 8.5 per cent over 1935, due largely to greater volumes transported through the Buckeye Pipe Line Co. and Indiana Pipe Line Co. systems.

Buckeye and Indiana figure in movement of Sun Oil Co.'s crude from ocean terminal at Philadelphia to refineries at Toledo. Sun's movement of crude via tankers from the Gulf Coast to Philadelphia and then by pipe line to inland refineries was launched last year when Michigan production failed to equal requirements.

Movement of heavier shipments from the Mid-Continent cross country to the northeastern consuming district was also reflected in smaller gains registered by New York Transit, Southern Pipe Line Co. and Illinois Pipe Line Co.

Cessation of operations by Atlantic Refining Co.'s Pittsburgh refineries and almost complete loss of business to Waverly Oil Works near Pittsburgh, destroyed by last spring's fire and flood figured in reduced traffic by Eureka and South West Pennsylvania pipe lines.

The nine concerns, however, handled a total of 101,289,121 bbls. of crude during 1936, a daily average of 276,746 bbls., compared to 93,186,185 bbls. total in 1935 and daily average of 255,304 bbls. Total crude moved in 1934 was 92,629,181 bbls., and in 1933 it was 93,163,782 bbls. Pipe lines in the group include Buckeye, Eureka, Illinois, Indiana, National Transit, New York Transit, Northern, Southern and South West Pennsylvania.

Three Companies May Get Line

The Texas Co., Sinclair Prairie Oil Co. and Empire Oil & Refining Co. are reported planning to acquire a joint interest in the Texas Pipe Line Co.'s line from West Texas to the Gulf Coast. The Texas line runs from just north of the Jal area in Lea County, New Mexico, to a junction with a main line north of Port Arthur. Officials of the three companies inspected the pipe line facilities recently.

Shell Enlarging Pump Stations

SHREVEPORT, La.—When East Texas Refining Co. sold its 8-inch line from Rodessa to Longview to United Gas Public Service Co. it took option on 5,000 bbls. daily of United's production in Rodessa. Recently Shell Petroleum Co. entered into an agreement with East Texas Refining Co. to furnish the latter 2,000 bbls. of East Texas crude daily for the privilege of exercising option on 5,000 bbls. of Rodessa crude, the agreement to remain in force until June, 1938. The Shell company is now receiving 10,000 bbls. daily from United at Longview, and after April 1 will receive 15,000 bbls.

To care for the movement of this Rodessa crude Shell Petroleum is enlarging its three electrical main-line pump stations from Longview to the coast from 600 to 900 horsepower, and installing three intermediate pipe-line stations, each having an active horsepower of 1,000 with standby units of 500 horsepower each. The new stations will be of modern electrical type.

Outlet for La Blanca

McALLEN, Tex.—Construction of a 4-inch welded and wrapped natural gas pipe line has been completed from the discovery well of the Mestenas field in Hidalgo County, 6 miles east of Edinburg, and tied into the branch line of the Rio Grande Valley Gas Co.'s valley distribution system. The junction was made near Edcouch. The Gulf States well was the first of the deep tests drilled in the new La Blanca area. It was completed several weeks ago, and is making 5 bbls. of distillate daily along with gas.

Stream crossing in Kansas

Line for New London Field

HOUSTON, Tex.—The Texas Pipe Line Co. will lay a 7-mile, 6-inch line to the newly opened London field of Nueces County, Southwest Texas. The field, discovered last week by Wellington Oil Co., will be given outlet to Corpus Christi through the Texas Co. system in the Baldwin and Saxet fields of the same county.

Outlet for Pearsall Field

SAN ANTONIO, Tex.—Amerada Petroleum Co. and Humble Pipe Line Co. have entered into a contract in which Humble will take over the gathering system in Pearsall field in Frio County, Texas, enlarging the system and constructing a 32-mile line to Lytle. The line will connect with the company's West Texas trunk-line leading to Port Aransas. Survey is now being made and construction will begin within several weeks, thus giving the Pearsall field a much needed outlet.

Natural Gas

Columbia and Standard in Deal

PITTSBURGH, Pa.—The Columbia Gas & Electric Corp. and the Standard Oil Co. of New Jersey have made a deal wherein each acquires the other's minority interest in eastern gas properties. By this arrangement, Columbia will become the sole owner of the natural-gas system from southern West Virginia and extending through Virginia into southeastern Pennsylvania, and also the sole owner of the pipe-line system which runs from near Olean, N. Y., across the southern part of New York and into northern New Jersey. Standard Oil Co. will increase its interest in the natural-gas system which runs from north central Pennsylvania to Syracuse, N. Y.

Columbia and Standard entered the partnership arrangement several years ago when it appeared the combined efforts of the two companies might be required to develop natural-gas markets in the East effectively. It is expected to leave Columbia as the sole party at interest in the current plans to extend natural-gas service in the southeastern Pennsylvania area.

The Public Service Commission of New York has taken jurisdiction in changes planned in that state and will hold a hearing.

Ownership of the southern West Virginia to eastern Pennsylvania system is vested in the Atlantic Seaboard Corp., which has a capital of $500,000 and controls a pipe-line system which cost several millions. Columbia has held $350,000 of this capital stock and the other $150,000 was held by Standard Oil of New Jersey. Columbia will acquire all this stock.

The southern New York system ownership is vested in the Home Gas Co., which has 100,000 shares of no-par stock outstanding with a stated value of $2,041,174.77. Columbia owns this stock to the extent of $1,428,822.34, and $612,352.42 has been held by the Standard. Columbia will acquire all this stock. The system from Pennsylvania to Syracuse is vested in the Lycoming United Gas Corp., in which Standard has held 51.70 per cent of the stock.

Columbia will give up to Standard the largest part of the minority in Lycoming United. Another minority in this company is held by the Benedum & Trees interests.

It is reported that as part of the exchange Columbia will give up to Standard an interest in Reserve Gas Co. in West Virginia in which company Standard has been showing an ownership of 50 per cent. However, gas from the Reserve company will continue to be supplied to Columbia. All these arrangements have been settled without the necessity of other than a nominal amount of cash changing hands.

Toledo Strike Ends

TOLEDO, Ohio.—The strike of 260 unionized gas employes which began January 15 has been ended after lasting for 10 days. The men voted to accept an agreement in which the Ohio Fuel Gas Co. and the Northwest Ohio Natural Gas Co. offered concessions which included a wage increase ranging from 5 to 49 cents.

Denied Gas Rate Cut

OKLAHOMA CITY, Okla.—A three-year court fight to have gas rates reduced from 25 to 18 cents per 1,000 feet was lost by Mangun and Granite, Okla., when a federal court decision annulled the order of the State Corporation Commission effecting the 7-cent reduction. The court held the rate cut would be confiscatory.

Canadian Western Operations

CALGARY, Alberta.—Revenues of the Canadian Western Natural Gas, Light, Heat & Power Co. for 1936 are expected to show a slight increase over 1935. Totals of meters in operation, gas sales and revenue from sales were the highest in the company's history.

The company produces and distributes natural gas for heating, lighting and industrial purposes in Calgary, Lethbridge, Granum, Claresholm, Okotoks, Macleod, Nanton, Brooks, High River, Stavely, Foremost, Burdett, Cayley, Parkland, Taber and Black Diamond. Brooks is served by an independent system from local wells; and the other communities from the company's unified system. The population served is around 108,000 and the company owns 20.5 miles of field lines, 266 miles of transmission lines, 48 miles of branch transmission lines, and 289 miles of distributing mains.

The company secures its gas supply from the Turner Valley field, purchasing from Royalite Oil Co. To build up a reserve against exhaustion of this field, waste gas from Turner Valley has been used to repressure the depleted sands of the Bow Island field. Upwards of 9,000,000,000 feet of gas has been pumped into Bow Island, increasing the pressure from 248 pounds in August, 1930, to 496 pounds in August 1935.

the OIL AND GAS JOURNAL

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Now That Crude Is Higher

A crude price advance which, if maintained, will add $100,000,000 to domestic producers' income this year naturally brings up questions. Is it justified? Will it prove a good thing for the industry?

Taking 1936 as a fair year profitwise, it should be apparent to anyone that it cannot be duplicated unless there are higher prices for crude and its products.

The producer will pay more for practically everything that he buys. Labor costs will be higher. The tax collector will be around oftener and want more.

We are rapidly arriving at a point when entire dependence for current crude requirements must be placed on known underground reserves, the storage aboveground approaching minimum working requirements. Maintenance of these reserves, which is the consumers' guarantee of continued low prices for finished products, is becoming more costly.

Then there are the owners of 300,000 small producing wells. New recovery methods are making these wells more important as sources of future supplies. More can be accomplished at higher price levels and their owners need this encouragement.

But it is always safe to enter a word of caution in the oil business in times of prosperity. Higher prices, as one nationally known industrialist has said, rarely solve the basic problems of any industry. Many times they complicate solutions and create new problems.

The higher crude costs come at a time when gasoline consumption is at the low point of the year, with more than 200,000 barrels of the refiners' "money" product going to storage daily. The industry must face this and other situations and bring about a condition which will permit a sustained advance in wholesale and retail prices.

Otherwise there will be the dangerous development in which one branch pays for another's prosperity.

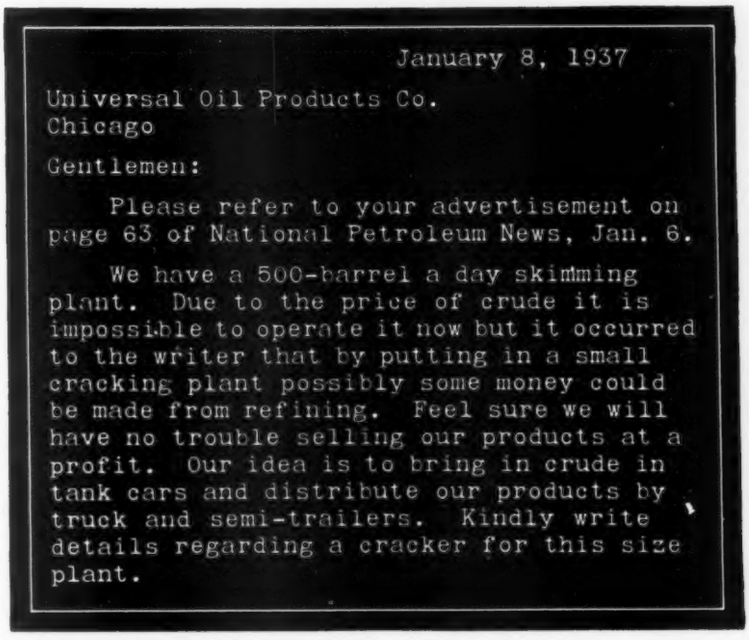
There still remains the major problem of controlling drilling along economic requirements. Higher prices won't solve that.

The operator who drilled too often at $1.15 a barrel under a proration system largely based on number of wells, will be tempted the more with $1.27 crude. Solution of this problem, centering in control of well-spacing, needs to be expedited.

Higher crude schedules are easy to defend. Their ultimate justification will depend on the course of those who stand to profit the most.

A refiner asks for help

HERE IS HIS LETTER



January 8, 1937

Universal Oil Products Co.
Chicago

Gentlemen:

Please refer to your advertisement on page 63 of National Petroleum News, Jan. 6.

We have a 500-barrel a day skimming plant. Due to the price of crude it is impossible to operate it now but it occurred to the writer that by putting in a small cracking plant possibly some money could be made from refining. Feel sure we will have no trouble selling our products at a profit. Our idea is to bring in crude in tank cars and distribute our products by truck and semi-trailers. Kindly write details regarding a cracker for this size plant.

This refiner had a happy thought

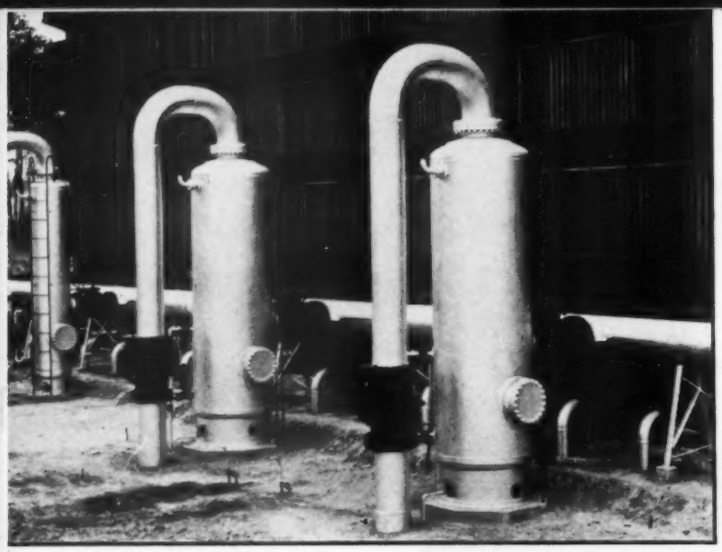
Dubbscracking is the way to make money from refining You can always sell Dubbscracked gasoline at a profit—there is never enough to go round

This same advertisement goes for all other refiners too

Put in Dubbscracking—then you can make money from refining

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor



Intermediate and high-stage scrubbers at the compression station

High Gasoline R by Design o U

By MITCHELL TUCKER

In the Rodessa field the United Gas Public Service Co. has just completed the largest and most extensive integrated project in the natural gas industry. Their operations are complete in every respect, including the leasing of lands, drilling, producing, separation, gathering, compressing, processing, and transmission of natural gas.

This company has been a leader in the development of the Rodessa oil and gas field since its discovery. They have drilled approximately 175 wells, or about one-third of the total. They also own gas rights under many other producing tracts. To properly utilize their vast daily gas production the Rodessa gas system has been constructed, which has resulted in the conservation of large gas reserves which might otherwise have been released into the air and wasted.

To the average layman the producing and transportation of natural gas amounts to merely piping the gas from the well to the consumer. As a matter of fact, in this particular industry there are a number of specialized operations that must enter into the producing and processing of a commercial dry gas that possesses a high B.t.u. value, and will burn with a maximum efficiency. In the discussion of this integrated project the gas will be followed from the well through the various stages to the point where the residue is released for transmission to points of domestic and commercial distribution.

The gas recovered from an oil well differs in properties from that recovered from a dry gas well. That from an oil well is piped to an oil and gas separator with the oil, where it is separated and released through control valves, the oil going through liquid level controls to stock or storage tanks, and the gas from the top of the separator is taken through a measuring station, usually an orifice fitting, and then into the field gathering system. The oil going from the separator to the stock tanks in many instances contains large quantities of lighter hydrocarbons or gasoline fractions which are lost through evaporation in the various storage tanks and along the oil transmission lines. Therefore, provision has been made in this project to preheat the oil and gas between well and the separator, permitting a maximum amount of rich gas to be obtained from the separator without affecting the crude oil gravity.

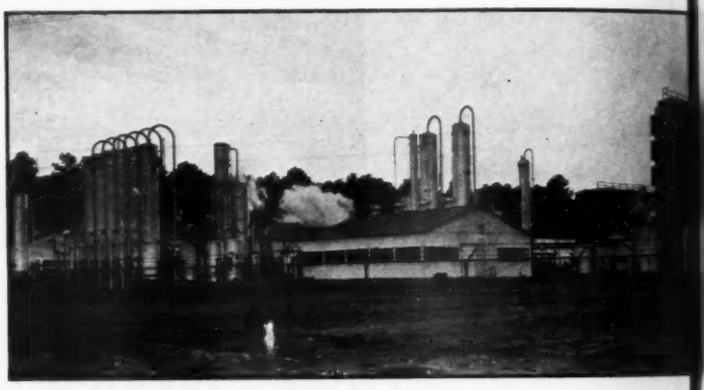
The separated gas is then run through a series of lateral lines, which in turn go into the 24-inch main gathering lines from both the Texas and Louisiana sides of the field into the centrally located compressor station.

Paralleling these 24-inch gathering lines a return drip line has been laid, and also a pressure line having remote controls at the compressor station. "Knockouts" or reservoirs are provided at sags in these lines to care for gasoline which condenses due to reductions in temperature from the heaters in the field. The drip is trapped in these reservoirs, and they are occasionally blown out by the pressure line, causing the fluid to flow to the storage tanks at the compressor station for later delivery to the gasoline plant and final processing.

A compressor station was necessary in this project for two reasons: (1) to pick up the field gas at about 50 pounds pressure and boost it to a point where high-pressure absorbers could be employed at the gasoline plant, permitting the well established economies of the high-pressure plant, and (2) to recover as much gasoline as possible from the gas through compression and absorption.

To meet this need, one of the largest and most modern two-stage compressor stations in the United States has been constructed. Eight 1,000-horsepower Cooper-Bessemer horizontal, double-acting, twin tandem engines, direct connected to two-stage compressors, are installed in the main building, having a daily capacity of 60,000,000 feet. Low-stage compressor cylinders are 20½-inches by 36-inches, and the high-stage cylinders are 12½ by 36 inches. Provision is made for the addition of four similar units when and if needed.

The gas is received through the 24-inch gathering lines in both directions into two inlet scrubbers, 7 feet by 25 feet. From there it is picked up at 50 pounds pressure and boosted through two-stage compression. Entering the low-stage suction at this pressure, gas is first boosted to 160 pounds, where it travels through the 175 by 52-foot enclosed type cooling tower and scrubbed through two 5-foot by 25-foot intermediate stage scrubbers. It is then returned to the second stage compression and boosted to 450 pounds, thence through the high-stage cooler and out through the two 3-foot by 20-foot high stage scrubbers. From this point the gas is moved through 16-inch discharge line to the Myrtis high-pressure absorption gasoline plant for processing.



United Gas Public Service Co.'s enlarged Myrtis gasoline plant

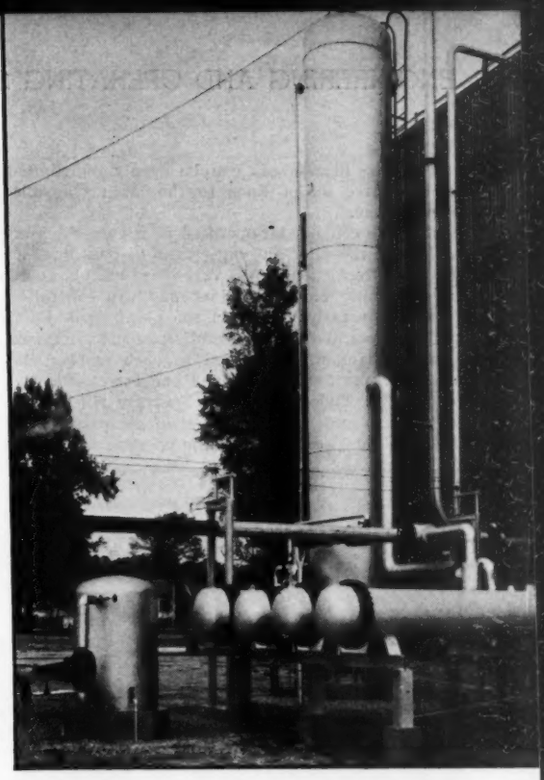
A 3-inch line delivers all liquid accumulated at the compressor station and at inlet and two-stage scrubbers to the gasoline plant situated about 3 miles to the south, where it is considered the same product as that coming from the absorbers and, therefore, fed direct to the stabilizers for the processing of a finished 26-70-pound stabilized product. The bottoms, having about a 43-degree corrected A.P.I. gravity, are sold as residue.

Auxiliary equipment at the compressor station includes two 250-horsepower vertical compressors. Each engine is direct connected to a 175-kw. generator that provides electric power for the plant and dwellings, and for motors driving circulating and centrifuge pumps. Four centrifugal pumps for water circulation are motor driven, each having a capacity of 3,000 gallons per minute. Four 650-foot water wells, gas or air lifted, provide the station and domestic needs.

As a final processing of the gas for commercial and industrial use, it is necessary

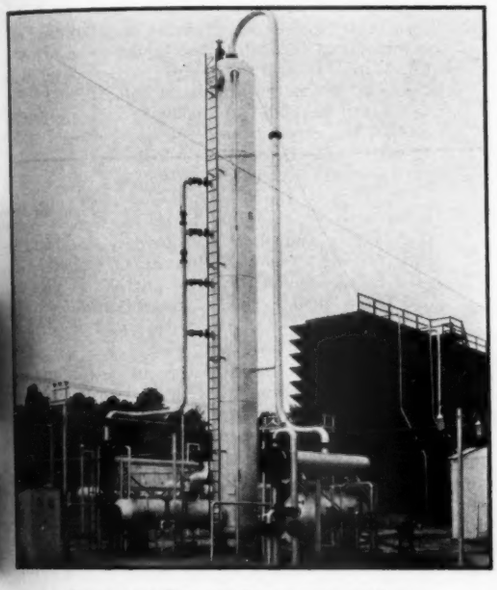
Compressing equipment in the plant consists of eight 1,000-h.p. horizontal twin-tandem engines, direct connected to two-stage compressors having a daily capacity of 60,000,000 feet

Recovery Effected United Gas Plant



Stabilizing equipment in the Myrtis plant consists of two towers, one of 30,000 and the other 85,000 gallons daily capacity

to eliminate all liquids, and at the same time maintain as high a B.t.u. value as possible. In this project it was contemplated a great amount of drip or raw gasoline would condense out in the discharge line from the compressor station to the gasoline plant. This drip usually occurs in the form of "slugs" which are caused by the many sags in the line and the varying amount of gas "load." Therefore, a three-unit inlet scrubber assembly has been installed near the plant to partially desaturate both the gas from the compressor station and that from the original Rodessa gas wells. One scrubber is provided on the 16-inch discharge line from the compressor station, and one on each 10-inch field gathering line to the original Rodessa gas wells.



Newly installed distillation unit having a daily capacity of 60,000 gallons

The inlet scrubber assembly is situated approximately one-quarter mile from the plant for the sake of safety, and each unit is equipped with high and low level controls. The high level of each scrubber is equipped with an electrically operated switch, which is connected to a horn in the gasoline plant. In case "slugs" of liquid appear in the line, the horn blows to warn operators to watch their receivers in the plant. Pilot lights are also installed in order that operators may be called to the scrubber assembly to investigate the high level control openings when necessary.

This liquid or raw drip gasoline is brought from the scrubber to the plant through an intermediate and a final drip separator, each having liquid-level controls which reduce the pressure, and act as a safety precaution for the plant storage tanks.

Absorption equipment in the Myrtis plant has undergone three stages of enlargement as additional capacity was needed until it has reached its present capacity of 140,000,000 feet daily and consists of three separate units

In considering the Myrtis gasoline plant, it must be pointed out that, although today it is probably the largest natural gasoline plant of its kind in the world, it consists of three separate and distinct units, each built to care for the rapidly increasing volume of Rodessa gas.

The gas is brought from the inlet scrubbers, through the header, and into the plant absorbers, having a total capacity of 140,000,000 feet daily. Absorption oil is circulated through the absorbers in the conventional manner. The residue gas comes off the absorbers and is transported through a 21-mile, 18-inch line to United's Latex compressor station for domestic and commercial distribution.

The original unit of this plant was built in 1933, consisting of eight 36 by 30-foot absorbers with a capacity of 40,000,000 feet per day. In 1935 additional capacity was needed, and No. 2 unit was installed containing three 48 by 30-foot absorbers with a daily capacity of 45,000,000 feet. In the summer of 1936, the compressor station was built and an additional absorber capacity of 55,000,000 feet was added by the installation of three 48 by 30-foot, 16-tray, high-pressure absorbers.

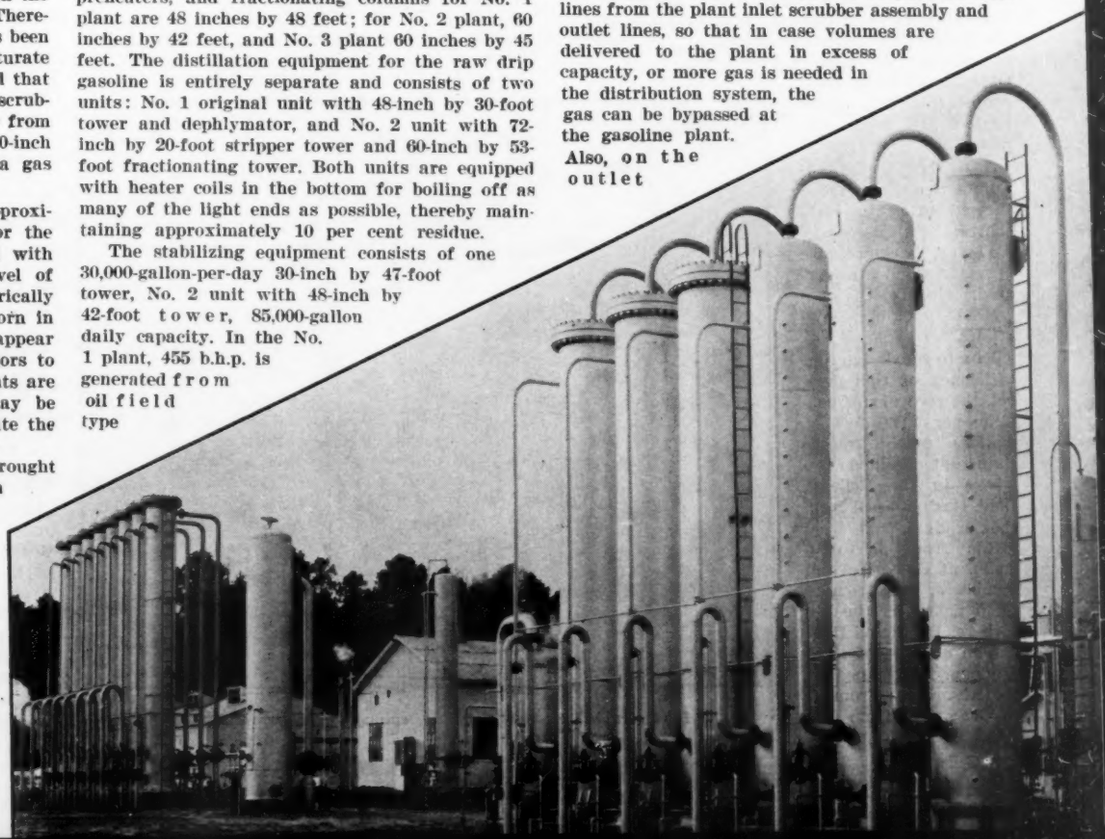
The distillation units for absorbed gasoline consists of No. 1 unit with capacity of 30,000 gallons per day, No. 2 unit with daily capacity of 55,000 gallons, and No. 3 unit with capacity of 60,000 gallons per day; all of the conventional type. Heat exchangers, preheaters, and fractionating columns for No. 1 plant are 48 inches by 48 feet; for No. 2 plant, 60 inches by 42 feet, and No. 3 plant 60 inches by 45 feet. The distillation equipment for the raw drip gasoline is entirely separate and consists of two units: No. 1 original unit with 48-inch by 30-foot tower and dephlymator, and No. 2 unit with 72-inch by 20-foot stripper tower and 60-inch by 53-foot fractionating tower. Both units are equipped with heater coils in the bottom for boiling off as many of the light ends as possible, thereby maintaining approximately 10 per cent residue.

The stabilizing equipment consists of one 30,000-gallon-per-day 30-inch by 47-foot tower, No. 2 unit with 48-inch by 42-foot tower, 85,000-gallon daily capacity. In the No. 1 plant, 455 b.h.p. is generated from oil field type boilers, and in No. 2 plant 750-horsepower is generated. No. 3 unit consists of four 170-horsepower return tubular boilers.

The pumping equipment for the No. 1 plant consists of two vertical triplex gear pumps, direct connected to vertical gas engines, and centrifugal water pumps—belt driven from the same engine. No. 2 unit is served by all reciprocating steam duplex pumps, necessitating more boiler horsepower than for the other units. Four high-pressure pumps, three low-pressure oil pumps, and three water pumps are also included in No. 2 unit equipment. In No. 3 unit the oil and water pumps are of the steam-driven, centrifugal type and on both stabilizer units close-clearance, high-pressure reciprocating pumps are used.

The compressors for handling various vapors and tail gas from the plant consist of a total of 770 horsepower for rich vapors and tail gas, and 140 horsepower for pumping high-pressure tail, dry vapors into the main line. The vapors from the low-pressure vent tanks in all three units are processed through two reabsorbers, and the dry vapors then used for fuel.

A header has been installed to connect inlet lines from the plant inlet scrubber assembly and outlet lines, so that in case volumes are delivered to the plant in excess of capacity, or more gas is needed in the distribution system, the gas can be bypassed at the gasoline plant. Also, on the outlet



end of the header gas can be evenly distributed in the three outlet lines to the main transmission system.

Remote control, air-operated plug valves are installed on the inlet and outlet and by-pass lines as a safety precaution. These valves are located about one-half mile from the plant and are controlled from an operating stand in the plant yard. Each valve is operated by a hydraulic piston having two volume chambers, connected to each end of the cylinder; one for opening and one for closing the plug valve. The volume chambers are filled with a light oil, and the application of compressed air at the plant yard to either the opening or closing

Inlet scrubber on 24-inch gathering lines into the compressor station

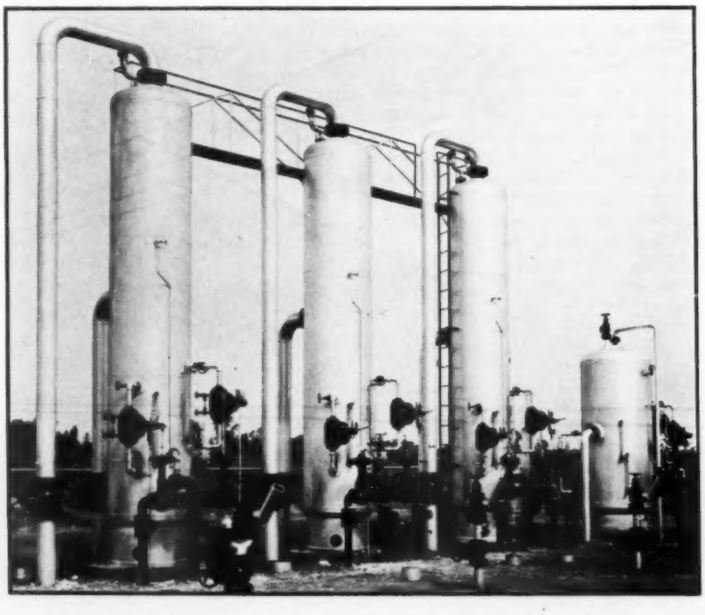
chamber moves the plug valve in the direction desired.

Due to the off-color and high content of oil in the drip from the 24-inch gathering lines to the compressor station, the No. 1 drip still at the gasoline plant has been converted to a new type fractionator. The still improves the color of this off-colored drip and makes it suitable for blending with the raw drip received at the scrubbers. The residue is very heavy, suitable only for cracking into a distillate tractor fuel.

Additional loading lines were laid, and rack with railroad spur extended, increasing the loading facilities to handle 20 cars of gasoline and two cars of residue at one time. The rack is equipped with two connections for each car, one to be used for returning rich vapors to the compressors at the plant. The gasoline output of this plant is handled by the Warren Petroleum Co. of Tulsa, Okla., and through their cooperation this major project has been completed.

The Myrtis plant is automatically operated throughout, having level controls at all necessary points, back-pressure regulators and air-operated, electrically controlled pumping governors.

Due to the design and efficiency of this project, the recovery of gasoline per 1,000 feet of gas is much greater than that obtained elsewhere in the Rodessa field. Gas obtained from the original gas field yields from .5 to .6 g.p.m. at the drips and scrubbers, and from .4 to .5 g.p.m. at the absorbers. On the oil field gas an average of .4 to .5 g.p.m. is obtained at the absorbers; from .2 to .3 g.p.m. from the compressor station; and from .5 to .6 g.p.m. of drip accumulating in the line from compressor station to gasoline plant. From .15 to .25 g.p.m. is obtained from the drips in the 24-inch suction lines from the field to the compressor station.



Inlet scrubber assembly on line leading to the gasoline plant

Chemical Treatment of Wells to Increase Oil Production

The possibility and extent of damage to pumping equipment as the result of chemical treatment of producing oil wells is described in a report by E. F. Green, Axelson Manufacturing Co., metallurgist.

"The primary purpose of chemical treatment of pumping oil wells is to open up formation and clean perforations of obstructing material. Many different types of chemicals are used depending upon the type of obstructing material. For purposes of simplicity only those chemicals most generally used will be considered.

"Generally speaking, we may divide obstructing materials into three types: (1) Limestone and dolomitic rock; (2) sand; and (3) paraffin.

"In the first type we find many producing formations are in limestone and dolomitic rocks, and others where reservoir sandstones are held together by limey cements. In combating these types of obstructions muriatic or hydrochloric acid is most generally used. When muriatic acid was first introduced to operators it was used in the raw state. In many instances corrosion was so severe that inhibited acid was tried and found successful.

"At the present time over 142 patents on inhibitors have been granted in the United States and in foreign countries. Certain types of organic inhibitors are not efficacious in that they are dissolved in oil and thus removed from the acid. From this it may be seen that when an inhibited acid is used in an oil well the acid attacks the foreign materials present and the contained inhibitor forms a protective coating on the areas of steel present. Investigating further we find that if the protective film which is formed on the steel is destroyed, the action of the acid begins again. If a pump is operated in an inhibited acid those areas of steel and cast iron which undergo abrasion must of necessity have their protective films destroyed and thus be subject to corrosion. The type of corrosion is known as direct chemical corrosion, and is usually evidenced by a general action over the entire surface. A further action occurs here, in that carburized and hardened steel and cast iron will usually be attacked preferentially if low carbon steel is present. If two steel fittings are present where one fitting is under a much higher stress than the adjoining fitting the higher stressed part will be preferentially corroded. This second type of corrosion is termed electrolytic corrosion.

"As a general rule, but not always since there are exceptions, steel or iron which is electrolytically corroded will have deep, sharp edged pits. Still another type of failure is hydrogen embrittlement. Hardened balls and seats are prone to this type of failure. When these parts are immersed in acids nascent hydrogen enters the surface of the steel, proceeds along grain boundaries, and eventually combines to form hydrogen gas. This action causes expansion and consequent severe strains set up in the steel. Any shock loads on a piece of steel in this condition will usually result in failure. Evidences of this form of failure are cracking or flaking.

"Another chemical which is used in place of muriatic or hydrochloric acid to combat limestones is anhydrous aluminum chloride. The chemical is used in dry, powdered, granular or pellet form and is introduced through either tubing or casing. Water, if not present, is added to the chemical in the hole. When the aluminum chloride and water are mixed heat and hydrochloric acid are formed so that the reaction proceeds as mentioned above. In all chemical actions it should be remembered that heat usually speeds up the rate.

"Taking up the second type of obstructing material sand we find that hydrochloric acid exerts little effect and that hydrofluoric acid must be used for sand removal. Here again inhibitors are used to accomplish the same purpose as with hydrochloric acid. The aforementioned corrosive troubles are encountered with equal severity as in the use of hydrochloric acid.

"Considering the third type of obstructing materials, paraffin and wax, two types of chemicals are used. In the first type heat is generated when the chemical is added to water. The heat thus generated softens and removes the paraffin deposits. In the second type of chemical used for paraffin the removal is accomplished by a solvent action. This process uses no heat and eliminates expansion strains on pipe. Ordinarily most chemicals used for paraffin removal cause little trouble to pumping equipment."

Combustion Heats Determined by Bureau of Standards

R. S. Jessup, Heat and Power Division, National Bureau of Standards, Department of Commerce, has recently made accurate measurements of the heats of combustion of seven organic compounds which are members of the series known as normal paraffin hydrocarbons. The results, Mr. Jessup believes, are accurate to within a few hundredths of 1 per cent.

The value of this work lies in the fact that data on heats of combustion are necessary before one can apply the only feasible method for determining the free energies of the formation of many compounds, it was stated. Chemists require a knowledge of the free energy to predict from thermodynamic considerations the conditions under which given reactions involving the compound may take place, and to calculate, as is generally necessary, the equilibrium constants of these reactions, according to the Standards Bureau.

While the heats of combustion of many organic compounds have been measured Mr. Jessup stated that most of these measurements were made a number of years ago when the experimentors did not have the advantages of modern methods, or of the more nearly pure materials which are now available. Consequently, many of the older values of heats of combustion are not sufficiently accurate to permit the calculation of reliable free energy data.

The present work, it is therefore believed, will fill a real need and will greatly facilitate the work of the physical chemist.

World's Deepest Oil Producer Completed in Ventura Avenue

By T. P. SANDERS

Tide Water Associated Oil Co. (Associated Division) completed its No. 12 McGonigle in the Ventura Avenue field near Ventura, Calif., on January 17 to establish a new record. It is now the deepest producing well in the world. Progress in deep drilling and the increase in drilling activity are clearly indicated by the fact that the record for deep production has twice been broken since the first of the year. The former record was established by Texas Co. No. 5 Rigolets in the Lafitte field of Louisiana which was completed on January 7 at a depth of 10,244 feet. No. 12 McGonigle was drilled to 10,569 feet, or 9 feet deeper than 2 miles. The first 23 hours it was open it flowed 533 bbls. of 30.3 gravity oil with 430,000 feet of gas through a 55/64-inch flow bean. The tubing pressure was between 20 and 30 pounds, and a 500-pound casing pressure was recorded. The oil was cut 3.6 per cent, but it is probable that this water was introduced by the drilling fluid, since cutting had decreased to 2.6 per cent on January 19 when the well flowed 495 bbls. Analysis of the water showed the salt content to be far below the field average.

The completion of No. 12 McGonigle gives Tide Water Associated Oil Co. the producing-well depth record for the sixth time. The rapid progress in deep drilling is effectively brought out by a list of its records. In November, 1921, No. 1 Butterworth was completed in the Santa Fe Springs field at a depth of 4,683 feet; then the world's deepest producer. No. 2 Clarke was completed in the same field in June, 1929, at a depth of 8,165 feet. The last four of Associated's records were made in the Ventura Avenue field: No. 57 Lloyd in April, 1931, at 8,823 feet; No. 83 Lloyd in July, 1932, at 9,710 feet; No. 131 Lloyd in August, 1935, at 9,846 feet, and finally No. 12 McGonigle.

LITTLE DEVIATION SHOWN

From an engineering standpoint the most important consideration concerning this recent completion is believed to be that the great depth caused no unusual difficulties. Trouble was avoided mainly because of the great care which was put forth to keep the hole straight. The greatest deviation from the verticle was about 3 degrees recorded at 7,000 feet. The hole was straightened by reducing the weight on the bit at this depth. An average of 35 feet of hole per day was made after a depth of 10,000 feet had been reached. A straight hole was further indicated when a 607-foot liner was landed at a depth of 10,556 feet with no difficulty. Since the location is on the flank of a very sharp anticline, characteristic of California oil field structures, the strata penetrated dips steeply. A straight rotary hole drilled through 2 miles of such strata is an achievement which might have been considered impossible a short time ago. The Tide Water Associated Oil Co. operates its own drilling rigs, and the belief is held in this organization that straight drilling was necessary to reach the great depth without difficulty.

Five different sized strings of drill pipe were used in drilling this well. Drilling was commenced on February 6, 1936. A 24½-inch hole was drilled to a depth of 848 feet using 8-inch drill pipe. Eighteen and five-eighths inch, 84½-pound was then cemented, and a 17-inch hole was drilled to 6,025 feet with 6-inch drill pipe. After cementing 13⅜-inch, 61-pound casing 7 feet off bottom, 5-inch drill pipe was put into service to drill a 12¼-inch hole to 8,102 feet. At this depth the heaviest string of casing was run and cemented. It was a 9-inch string made up of 46 and 55-pound casing with a total weight of over 400,000 pounds. Using 3-inch drill pipe, a 7¾-inch hole was carried to 10,007 feet where 5¾-inch, 22-pound casing was cemented in the oil-saturated zone. A 4¾-inch hole was drilled to the total depth with 2½-inch drill pipe, and 607 feet of 4-inch liner, 539 feet of which was perforated, was landed at 10,556 feet. The top of the liner was belled out in the 5¾-inch casing. About 500 feet of oil-bearing strata are exposed in the well.

Precautionary measures used in drilling and completing No. 1 McGonigle represent common deep-well practice as used in the Ventura Avenue field. A steam drilling rig was used for which steam was generated by a plant consisting of 5,175-pound boilers. No superheaters were used. Customary boiler plant practice for the field was followed, which, however, is quite unusual. Because of the mountainous topography, a large expenditure is usually incurred in leveling a location for the plant. It has therefore been found profitable to locate each boiler plant where it can be used in drilling four or five wells. The greater distance from the boilers to the drilling rig is then compensated for by insulating the boilers and the steam lines with a 2-inch covering of asbestos. When the boilers are moved, a portion of the covering must be taken off, but many boilers are operated for two or three years at the same location.

A common 14 by 14 twin-cylinder steam engine was used to operate the drawworks and the rotary table. Another smaller twin-cylinder engine was used as standby equipment for emergency use. By chain drive this smaller engine was connected with a hoist, to the drum of which was fastened the dead end of the drilling line. Ten lines were used on the traveling block. In case of failure of the large engine the drill pipe could be removed from the hole by the smaller engine working on the "dead" line; in which case the end of the

World's deepest producer; No. 12 McGonigle which was completed at a depth of 10,569 feet in the Ventura Avenue field of California

THIS CALIFORNIA SERIES

For several weeks Tully P. Sanders, petroleum engineer, has been in California gathering facts for a series of practical engineering articles on oil production in that state. The present article is the first of that series. The second will appear next week, and others will be printed in quick succession.

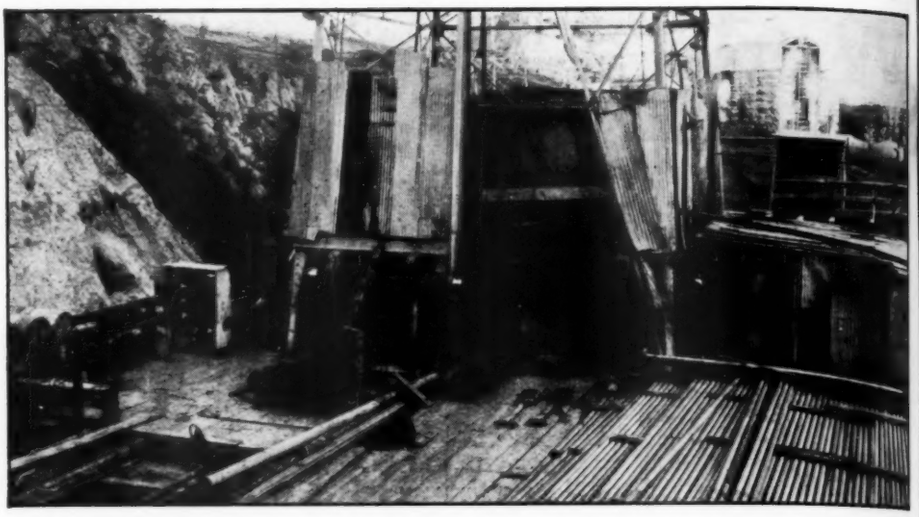
Sanders' engineering background amply justifies you in expecting a notable series of articles. He has had actual charge of drilling seven wells; has worked as division superintendent; has supervised pumping and gas-flow operations for a large petroleum company. Sanders has previously visited and studied California's production methods, and is thoroughly familiar with the area and installations his articles will discuss.

line spooled on the drawworks would become the dead line. With this system it is easy to change the position of the drilling line on the drawworks drum to prevent unusual wear in any one place by winding a few more feet of the dead line onto the small hoist drum.

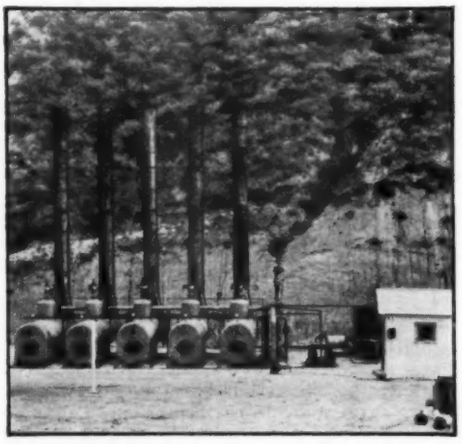
Three steam mudpumps were used which were connected so that they could be compounded for deep drilling. Drilling-fluid caused no serious trouble, such as blowouts, but it was often necessary toward completion to turn the returning mud stream into the blow box, restricting the flow so that the discharge would not be greater than the input. In drilling the oil-saturated zone, weighting material and colloidal material were added to the fluid. The Associated company operates a mud reclamation plant in the field where gas and oil are removed. Pipe lines carry mud between this plant and the drilling wells. Reclaimed mud was used for drilling most of the McGonigle well, but this was supplemented with yellow mud, which is made from natural clay found near the field. Tanks were used for mixing and storing mud at the location, and two vibrating screens made settling-pits unnecessary. Since the location is on a steep slope, pits would have required much excavation work.

No. 12 McGonigle is situated on the extreme northeast edge of the Ventura Avenue field. The field was so named because it lies on Ventura Avenue which extends northeastward from the city of Ventura. Of the geology of the field there are few definite statements which can be made, since 16 years of drilling have shown a complicated structure, whereas it was once believed quite simple. A sharp anticline is apparent at the surface, and the axis of this structure at depth is not far removed horizontally from the axis of the surface structure, though is considerable faulting at depth which is not apparent at the surface. In the Pliocene strata along the crest of the anticline oil-sands of great thickness occur. For purposes of classification the productive strata has been divided into several zones. The wells located near the new producer all obtain their production from higher zones, at depths in the neighborhood of 7,000 feet. These upper zones were not tested in the new well. It is believed that other wells in the field are deeper stratigraphically than No. 12 McGonigle. Among such wells is No. 83 Lloyd, which is nearer the crest of the anticline and has a total depth of 9,710 feet.

It is significant to note that No. 12 McGonigle did not reach the Miocene sediments. It is bottomed in strata of Pliocene age. These strata were laid down late in geologic time, and since they are found at a depth of more than 2 miles, the immense thickness of the sediments is this area can be roughly visualized. Perhaps a well 5 miles deep would have to be drilled at this point to test all of the sediments with productive possibilities down to the Franciscan strata of Jurassic age, commonly considered limit for oil possibilities in this region. Probably the quantity of oil-prospecting work yet to be achieved can best be realized by two examples. First is the fact that the Appalachian basin, from which the first production in the United States was obtained, has never been explored to any great depth over almost its entire area. Second, thousands of feet of potentially productive strata underlie the bottom of the deepest producing well in the world.



Emergency steam engine and the 2½-inch drillpipe on the rack of No. 12 McGonigle



Five insulated boilers used to furnish steam for drilling of the deep producer

Survey of Highways to Reveal Type of Surfaces Needed

Preliminary reports of the highway surveys being conducted in 36 states are revealing inconsistencies in road planning which have placed high-cost highways on little used routes and denied other routes the low-cost, all weather improvements to which they are entitled, the Western Petroleum Refiners Association reports.

Among the first of the preliminary reports to be released is that of Oklahoma in which, according to Dr. W. E. Grisso, chairman of the highway commission, costly highways have been built on routes where the traffic carried would not justify a gravel road. Other routes, carrying sufficient traffic to justify the bituminous mat surface, with which the state has been so successful, are unimproved.

Other states in which the highway departments are cooperating with the U. S. Bureau of Public Roads in conducting the surveys, are finding similar weaknesses in road planning. Although it is recognized that only roads carrying 1,500 or more vehicles daily are entitled to the high-cost type surfaces costing $25,000 or more a mile, actual traffic counts on which to base road plans have not been available.

Completion of the surveys will provide engineers with an accurate yardstick indicating the type of surface to which each road is entitled—whether untreated gravel, surfaced treated gravel, bituminous mat or the higher type asphaltic or cement concrete. With state and national highways planned according to traffic density more roads can be built, relieving the congestion on the present system, engineers point out.

View in the Ventura Avenue oil field showing excavation work which has been necessary for roads and locations on the steep hillsides

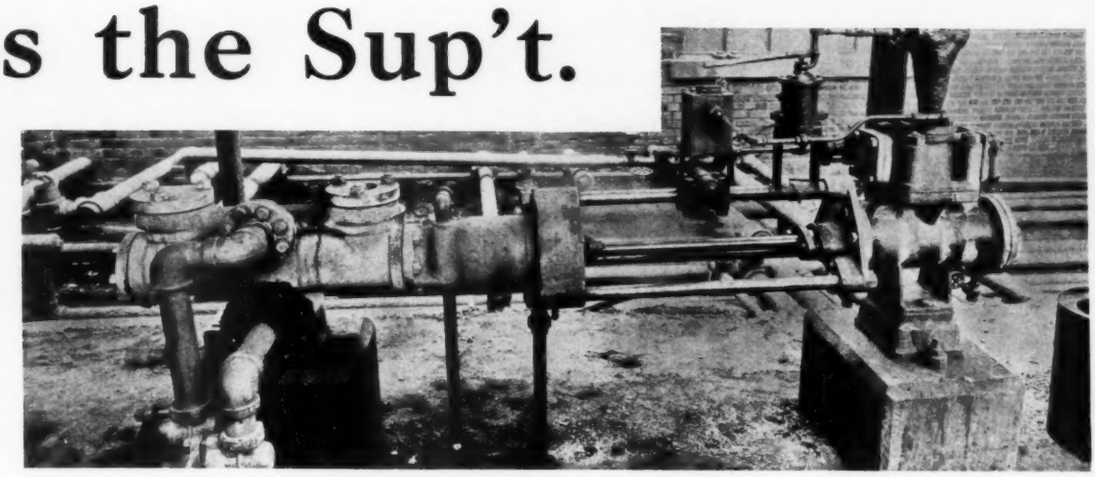
Highway Deficit Averages 360 Miles for Each County

The deficiency in the American highway system is at the rate of 360 miles for each county in the country, according to calculations of the Western Petroleum Refiners Association. The calculations are based on estimates of Walter N. Polakov, Washington economist of the works progress administration, who states that most of the deficiency is in the low-cost, secondary roads of the bituminous or oil mat type. About 1,075,000 miles of this type, or an average of 360 miles per county is needed, Mr. Polakov states.

The first step toward wiping out the deficiency, the association reports, has been taken by the U. S. Bureau of Public Roads in appropriating $25,000,000 for construction and improvements on secondary roads in 1937. That amount must be matched by state highway departments giving a total of $50,000,000 for secondary roads this year. Invested at the rate of $7,500 a mile, the fund will provide 6,500 miles of secondary roads or about 2½ miles per county.

Two other steps are necessary, the association states, to provide the necessary secondary roads and bring the highway system up to date. Diversion of highway funds to non-highway purposes and the construction of unnecessarily expensive highways should be eliminated. Highway funds diverted to other purposes in recent years would have built 30 miles of roads per county at $7,500 a mile. The funds estimated to have been invested in expensive highways which carry relatively little traffic—would have built another 60 miles per county at the same average cost.

". . . more than pleased . . ." Says the Sup't.



We have one (1) National Transit 12x6x12″ Horizontal Single Side Pot Pump handling Steam Refined Stock at a temperature of 450/600° F. at 25/30 R.P.M. at a head of 200′. This pump has been in operation since March 1, 1935, in connection with our Solvent Extraction Plant. *(See illustration below).*

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Very truly yours,

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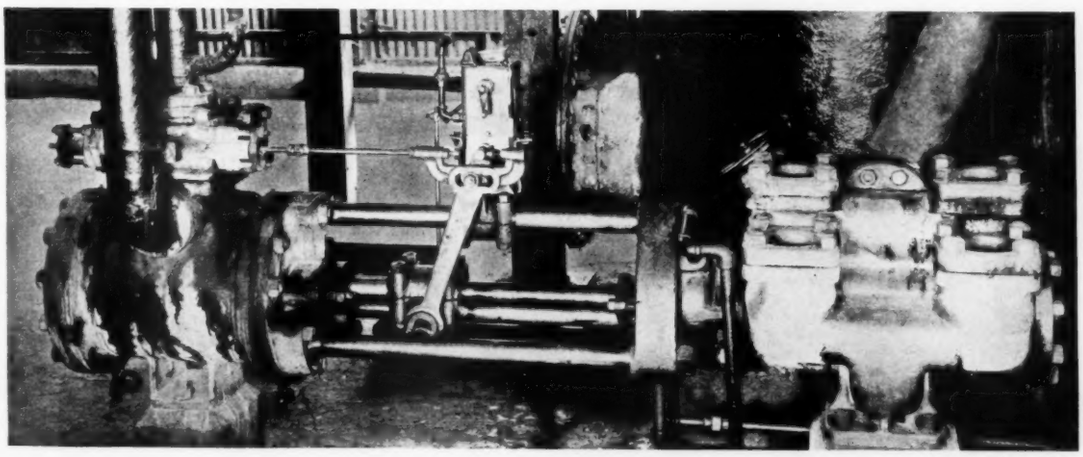
(Signed) F. L. Herle



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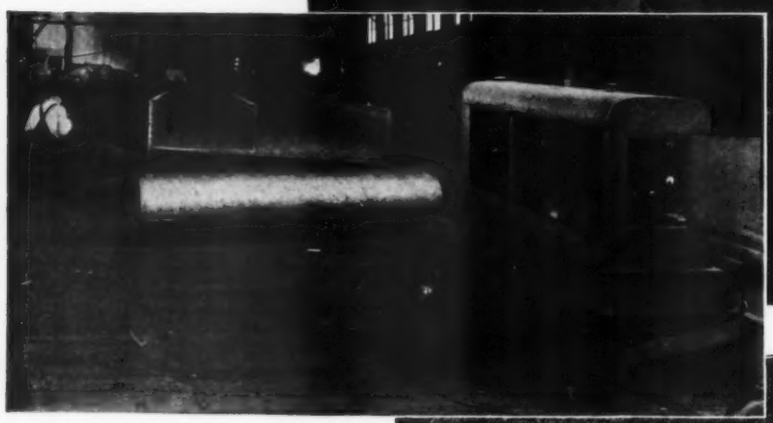

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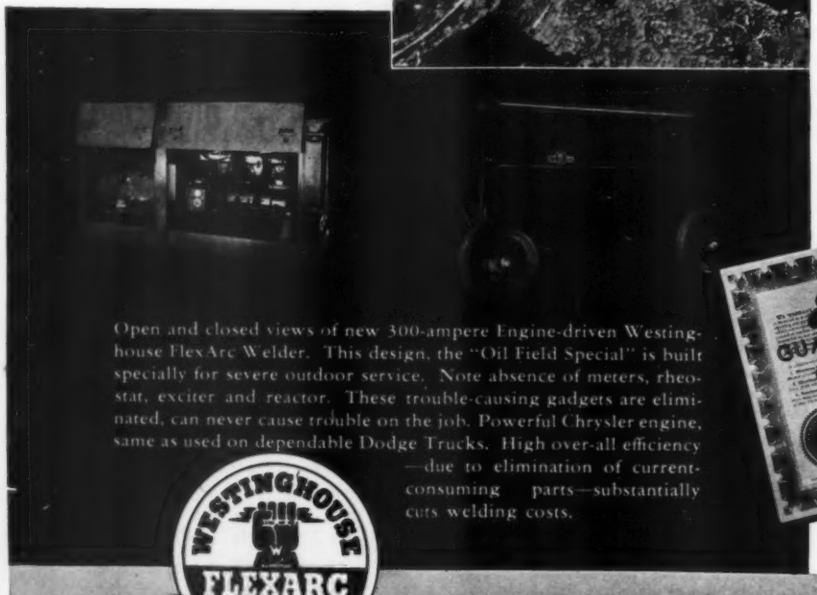

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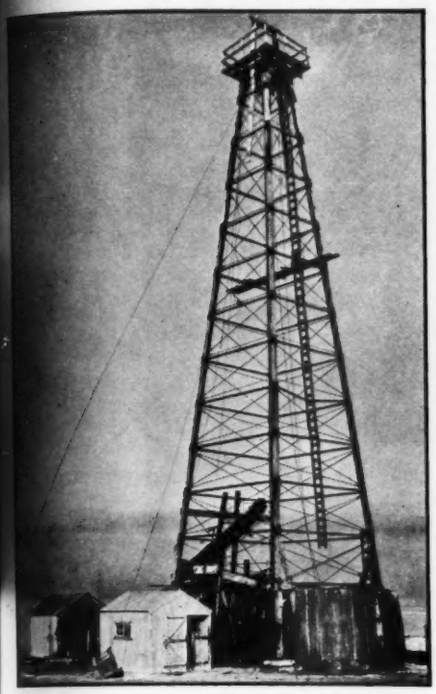
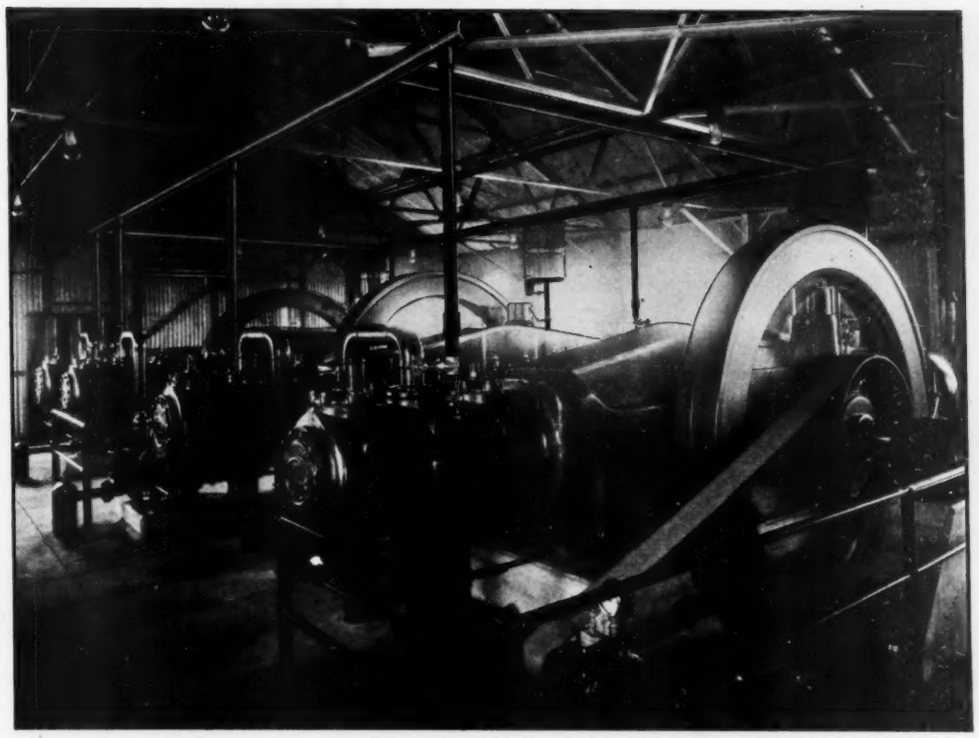
OPERATING IDEAS

Pumping Unit on Standard Rig

To effect a savings in lifting costs, many producers operating in Gray County, Texas, have installed gear pumping-units and at the same time have standard rig fronts with



steam equipment for cleaning out and steaming the tubing. Paraffin deposition in these wells is very heavy and it is frequently necessary to run paraffin scrapers and steam out the tubing. By following this practice the operators are able to lift the oil at a minimum cost with the geared pumping unit and yet have the necessary equipment on hand for cleaning paraffin from the tubing.

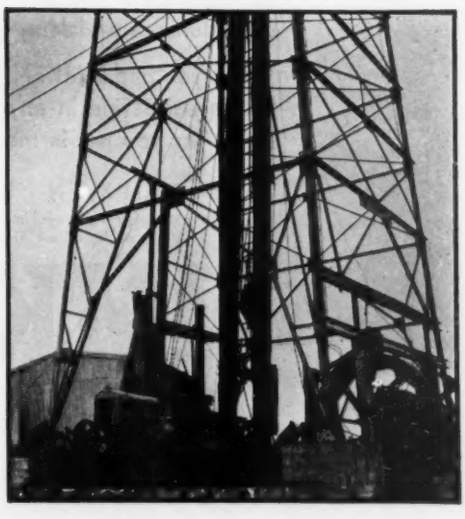


Overhead Piping on Engines for Water Circulating

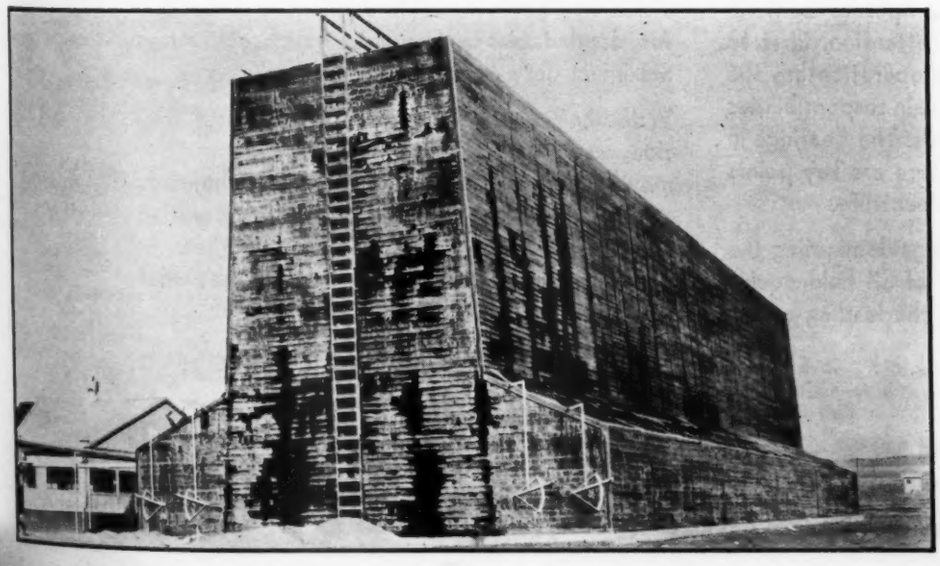
In a booster station recently completed by a large gas company near Wellington, Kans., the piping for circulating the water to the cylinders was all constructed overhead. This practice differs from that followed in most plants in that the piping is laid underground, thus requiring that the pipe be dug up in order to repair leaks. The whole system can be drained when desired, the water emptying into an outlet under each flywheel and gravitating to a sunken pit.

Tractor for Pulling Casing

A casing-pulling contractor in the Oklahoma City field has adapted a farm tractor to a mechanical hoist and has successfully used this equipment for pulling several strings of casing from abandoned wells in the Oklahoma City field. Chain sprockets replace the rear wheels to give the proper gear reduction and operate in conjunction with a three-speed transmission. A 40-foot mast is used without disturbing any part of the derrick.

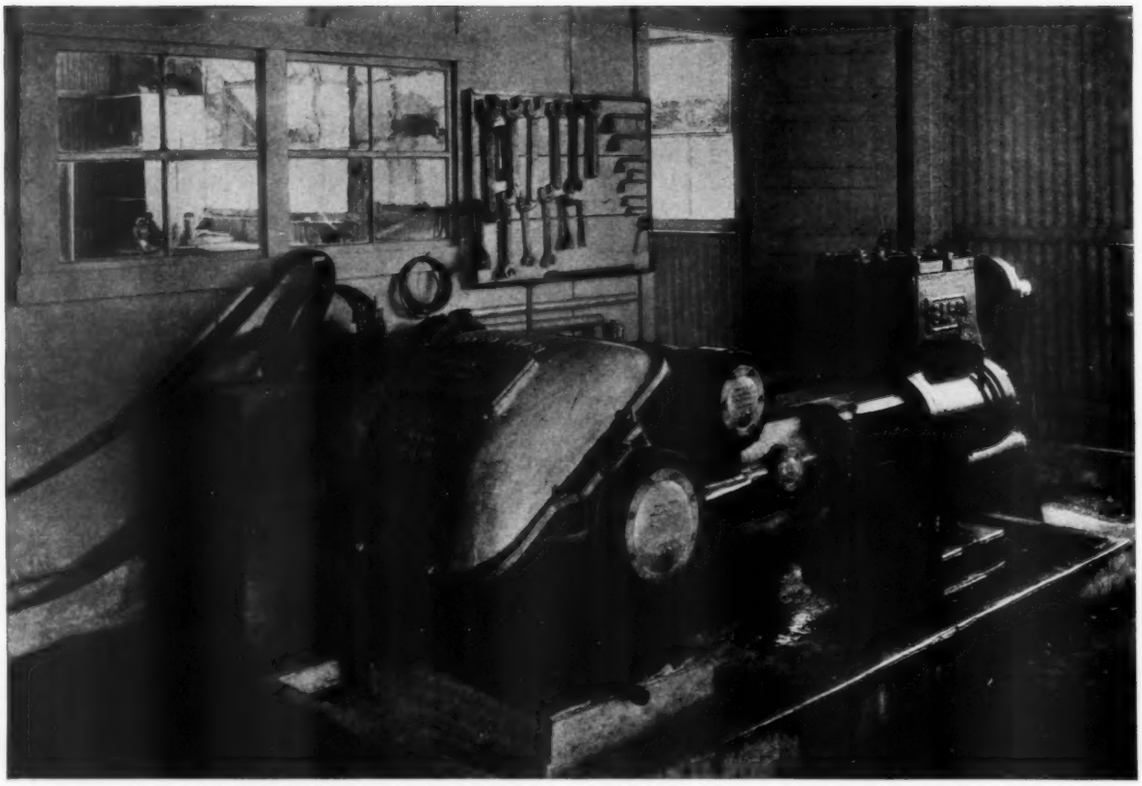


Forced Draft Cooling-Tower Reduces Wind Loss



The tower shown in the accompanying photograph has been placed in use by a company operating at Liberal, Kans., processing gas from a 24-inch high-pressure line. The tower is fully enclosed and forced draft is used for cooling the water. Wind velocities here are very high and if open tower is used water loss, due to wind blowing mist from the tower, is high.

CONTINUOUS OPERATION WITH TIMKEN BEARINGS



Gaso Pump manufactured by the Gaso Pump and Burner Manufacturing Company, Tulsa, Oklahoma, equipped with TIMKEN Bearings on the crank shaft and pinion shaft—key points.

The most important of all requirements in oil field equipment is ability to operate continuously with the least possible attention. First to feel the effects of continuous operation are the bearings. Upon them fall the main responsibilities of high speeds and heavy loads. The bearings in the equipment you buy therefore are key points of endurance and long equipment life.

When you find TIMKEN Bearings dominating the bearing situation in any kind of oil field equipment—as you will in most of the leading makes —you can take it for granted that ample provision has been made throughout the machine for dependable performance under continuous maximum duty operation.

With their threefold protection — against friction, radial-thrust loads and misalignment of moving parts—TIMKEN tapered roller bearings are equally valuable factors of low operating and maintenance costs. You need them in your equipment. It will pay you to see that you get them.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

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TIMKEN *TAPERED ROLLER* **BEARINGS**

Properties of Simple Benzene Derivatives

By W. L. NELSON

The following physical data are a continuation of material published in The Oil and Gas Journal for November 26, 1936, and January 7, 1937. The specific gravity values were given at many different temperatures in the references. In order to avoid this confusion, the author has taken the liberty of converting the specific gravity measurements to 60° F. referred to water at 60° F. but retaining the original reference numbers.

The chemical structures of the high molecular weight or high boiling aromatics and cyclic compounds are extremely complicated but the development of the chemical phases of the refining industry is occurring so rapidly that a thorough understanding of these hydrocarbons is imperative.

NOMENCLATURE FOR HYDROCARBONS

Much of the confusion and uncertainty regarding complex petroleum hydrocarbons arises because the names of them are complicated. The following outline of common rules for naming organic compounds should assist in allaying the dismay of those refinery men who have not had daily contact with organic chemistry.

PARAFFIN HYDROCARBONS

ROOT—To a large extent the root names have been derived from the Latin, etc., as "meth" for a hydrocarbon having only one carbon atom, "duodec" for one with 12 carbons, "tricos" for one with 23 carbons, and "tetra tricont" for one with 34 carbons, etc. A fairly complete listing of hydrocarbons utilizing the roots are given on page 46 of The Oil and Gas Journal for November 26, 1936.

ENDING—Different endings are appendaged to the root names for each of the series of hydrocarbons. For the paraffin hydrocarbons, the ending is "ane." For example, methane, ethane, decane, pentatricontane, etc.

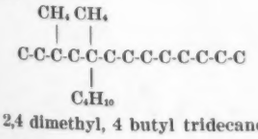
NUCLEUS—In naming a hydrocarbon, the last word is called the nucleus, and the longer straight chain is the best nucleus to use for the paraffin hydrocarbons.

ATTACHED GROUPS—These groups are named by the number of carbon atoms contained in them. The name of the group consists of the root with an ending of "yl." For example, methyl, propyl, duodecyl, etc.

If two or more groups are attached to the nucleus, the prefixes "di," "tri," "tetra," etc., are used.

POSITION OF GROUP—The position of each side-group or side-chain on the nucleus is indicated by a number preceding the name of the attached group. The numbers refer to the carbon atoms in the nucleus to which the groups are attached and the atoms of the nucleus are always numbered from the shortest end.

Example:



2,4 dimethyl, 4 butyl tridecane

UNSATURATED HYDROCARBONS

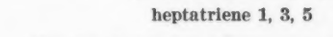
These are named in the same manner as the paraffin hydrocarbons except for the modifications and complications that follow:

Ending of Nucleus—"ene," as ethene, butene, pentacosene, etc.

Position of Double Bonds—The position is indicated by a number following the nucleus. The number indicates the carbon atom, numbering from the shortest end, at which the double bond is connected.

If two or more double bonds are present in the nucleus, the prefixes "di" or "tri," etc., are inserted before the nucleus ending, the letter "a" is added to the root, and number are used after the nucleus name to designate the position of the double bonds.

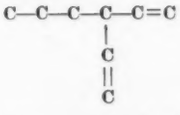
Example:



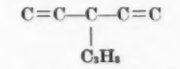
heptatriene 1, 3, 5

Unsaturated Attached Groups—In most cases the configuration of the molecule can be rearranged so that all of the double bonds are in a single chain and the double bonded chain can then be used as the nucleus.

Example:



The following rearrangement is suggested:



3 propyl pentadiene 1, 4

AROMATIC HYDROCARBONS

Much of the nomenclature of these hydrocarbons is the same as for the paraffin and unsaturated hydrocarbons with the following modifications:

Nucleus—Two ways of naming are useful.

1. If straight chains are attached, the benzene, naphthalene, biphenyl, or anthracene, structure is used as the nucleus or last word of the name.

2. If branched chains are attached the longest chain is selected as the nucleus and other parts of the structure are considered as attached thereto.

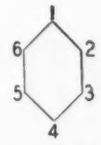
Rings Used as Groups—

The benzene ring is called phenyl.

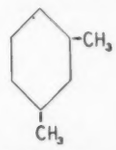
The naphthene structure is called naphthil.

The biphenyl structure is called biphenyl even when used as an attached group.

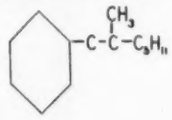
Position of Attachment to Ring—The carbon atoms of a benzene ring are numbered as shown:



These numbers are used as prefixes to the name of the attached groups. Examples are:



1,3 dimethyl benzene



1 phenyl 2 methyl heptane

CYCLO ON NAPHTHENE (SATURATED AROMATICS) HYDROCARBONS

Root—The same general roots are used as for the paraffin hydrocarbons except that the prefix "cyclo" is used. For example, cyclobutane, cyclohexane, etc.

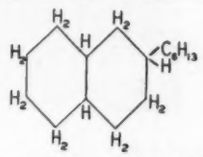
Nucleus—The two methods used in selecting the nucleus name for the aromatics are also used for the naphthenes.

Cyclo Ring Used as an Attached Group—The ending of the root is changed to "yl." For example, cyclopropyl, cyclononyl, etc.

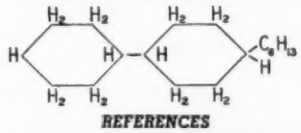
Rings Attached Together—The name of the parent aromatic group is used except that the prefix "hydro" is used to designate the number of hydrogen atoms added.

For example:

β hexyl decahydro naphthalene



ρ hexyl duodecahydro biphenyl



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3. Parks and Huffman, "Free Energies of Some Organic Compounds," Reinholt Publishing Co., 1936.

6. Egloff, "Octane Numbers of Some Hydrocarbons," The Oil and Gas Journal, Oct. 15, 1936.

11. Rossini, F. D., "Chemical Constituents Separated in A.P.I. Project," The Oil and Gas Journal, May 16, 1936, p. 64.

20. Handbook of Chemistry and Physics, Chem. Rubber Publishing Co.

Simple Benzene Derivatives

Hydrocarbon—	Formula	Molecular weight	Sp. gr. liquid 60/60	Boiling point (°F.)	Melting point (°F.)	Latent heat B.t.u./lb.	Heat of combustion B.t.u./lb.
Benzene*	C_6H_6	78.05	.877	176.36[11]	41	168	18,020[3]
Methyl benzene†	C_7H_8	92.06	.869	230.9[11]	...	153	18,250[3]
Ethyl benzene	C_8H_{10}	104.08	.883	277[11]	—138	...	18,880[3]
1-4 Dimethyl benzene	C_8H_{10}	104.08	.880	281.1[11]	—58	145	18,820[3]
1-3 Dimethyl benzene	C_8H_{10}	104.08	.881	282.6[11]	—65	147	18,870[3]
1-2 Dimethyl benzene	C_8H_{10}	104.08	.886	291.2[11]	—16	148	18,870[3]
1-3-5 Trimethyl benzene	C_9H_{12}	118.10	.865	328.4[11]	—72	133	.....
1-2-4 Trimethyl benzene	C_9H_{12}	118.10	.895	336.6[11]	—71.3	132	18,880[3]
1-2-3 Trimethyl benzene	C_9H_{12}	118.10	....	329[11]	....	...	.....
n-Butyl benzene	$C_{10}H_{14}$	132.12	.868	356[11]	....	...	19,080[3]
1-Methyl 4-Isopropyl benzene	$C_{10}H_{14}$	132.12	.861[20]	†348.8[20]	—99.4[20]	...	19,010[3]
1-Methyl 3-Isopropyl benzene	$C_{10}H_{14}$	132.12	.872[20]	348.3[20]	—13[20]	...	.....
1-Methyl 2-Isopropyl benzene	$C_{10}H_{14}$	132.12	.879[20]	347[20]	—13.9[20]	...	.....
1-2-4-5 Tetramethyl benzene	$C_{10}H_{14}$	132.12	*.838[20]	381.2[20]	176[20]	...	18,900[3]
1-2-3-5 Tetramethyl benzene	$C_{10}H_{14}$	132.12	.899[20]	386.6[20]	—19.6	...	18,910[3]
1-2-3-4 Tetramethyl benzene	$C_{10}H_{14}$	132.12	.905[20]	399.2[20]	24.8[20]	...	18,950[3]
Hexamethyl benzene	$C_{12}H_{18}$	162.14	....	507	347	...	18,940[3]

*Benzene—Crit. temp. 551.3[3] deg. F.; crit. press. 700[7] lb. abs.; Oct. No. 97[6].

†Methyl benzene—Crit. temp. 649[3] deg. F.; crit. press. 611[3] lb. abs.; Oct. No. 100[6].

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Analyses of Canadian, Polish and Peruvian Crude Oils

By GUSTAV EGLOFF
Universal Oil Products Co.

Continuing the presentation of analyses and properties of representative crude oils produced in foreign countries, following are given properties of Canadian, Peruvian and Polish crudes. Analyses of crudes produced in other foreign countries appeared in the December 31, 1936, January 14, 21 and 28 issues of The Oil and Gas Journal. Properties of other foreign crudes will appear soon.

There are seven productive crude oil fields in Canada: Calgary, Petrolia, Oil Springs, Bothwell, Mosa, Fort Norman and Stony Creek. The depth of the oil-bearing strata is from 365 feet to 2,765 feet: A.P.I. gravities of the crude range from 33.2 to 54.2, with gasoline and naphtha contents from 19.4 per cent to 90.1 per cent, and sulfur content varying from 1.05 to 0.11. There are 35 refineries in Canada with a daily capacity of 178,375 bbls. and cracking installations of 66,700 bbls. daily.

CANADIAN (CALGARY FIELD, ALBERTA) CRUDE OILS

Gravity, °A.P.I.	54.2
Sp. gr. at	0.762
Sulfur, per cent	0.13
Pourpoint, °F.	Below 5
Water, per cent	Nil
Viscosity (Saybolt Universal), sec. at 70° F.	30
Viscosity (Saybolt Universal), sec. at 100° F.	29
Color, N.P.A.	No. 2

Hempel Distillation (Air)

Temperature, °F.—	Per cent cut	Sum, per cent	Sp. grav. cut	°A.P.I. cut	Viscosity	Cloud test °F.
Up to 122	1.2	1.2				
122-167	3.1	4.3	0.693	72.7	...	...
167-212	8.1	12.4	.717	65.9	...	...
212-257	25.4	37.8	.742	59.2	...	...
257-302	26.3	64.1	.762	54.2	...	...
302-347	18.5	82.6	.776	50.9	...	...
347-392	7.5	90.1	.791	47.4	...	...
392-437	4.0	94.1	.804	44.5	...	...

	Per cent	Specific gravity	°A.P.I.
Light gasoline (up to 212° F.)	12.4	0.709	68.1
Total gasoline and naphtha	90.1	.754	56.2
Kerosene distillate	4.0	.804	44.5
Residuum	5.6	.866	31.9
Distillation loss	0.3	.....	....

CANADIAN (PETROLIA FIELD, ONTARIO) CRUDE OILS

Gravity, °A.P.I.	33.2
Sp. gr. at	0.859
Sulfur, per cent	0.92
Pourpoint, °F.	Below 5
Water, per cent	Nil
Viscosity (Saybolt Universal), sec. at 70° F.	100
Viscosity (Saybolt Universal), sec. at 100° F.	68
Color	Dark green

Hempel Distillation (Air)

Temperature, °F.—	Per cent cut	Sum, per cent	Sp. grav. cut	°A.P.I. cut	Viscosity	Cloud test °F.
Up to 122	....	....	.....	....	...	...
122-167	1.6	1.6	0.696	71.8	...	...
167-212	2.4	4.0	.710	67.8	...	...
212-257	4.3	8.3	.732	61.8	...	...
257-302	4.6	12.9	.753	56.4	...	...
302-347	4.9	17.8	.773	51.6	...	...
347-392	4.4	22.2	.787	48.3	...	...
392-437	4.8	27.0	.799	45.6	...	...
437-482	5.0	32.0	.810	43.2	...	...
482-527	6.3	38.3	.824	40.2	...	...

Hempel Distillation (Vacuum)

Up to 392	3.3	3.3	0.842	36.6	41	24
392-437	5.9	9.2	.852	34.6	47	42
437-482	5.6	14.8	.859	33.2	57	60
482-527	5.0	19.8	.866	31.9	76	76
527-572	6.8	26.6	.885	28.4	116	82

Carbon residue of residuum, 6.4 per cent.

	Per cent	Specific gravity	°A.P.I.	Viscosity
Light gasoline (up to 212° F.)	4.0	0.704	69.5	...
Total gasoline and naphtha	22.2	.751	56.9	...
Kerosene distillate	16.1	.812	42.8	...
Gas oil	7.5	.846	35.8	...
Nonviscous lubricating distillate	13.4	0.854–0.877	34.2–29.9	50–100
Medium lubricating distillate	5.7	.877– .896	29.9–26.4	100–200
Residuum	34.9	.929	20.8	...
Distillation loss	0.2	....	....	...

CANADIAN (BOTHWELL FIELD, ONTARIO) CRUDE OILS

Gravity, °A.P.I.	35.6
Sp. gr. at	0.847
Sulfur, per cent	1.05
Pourpoint, °F.	Below 5
Water, per cent	Nil
Viscosity (Saybolt Universal), sec. at 70° F.	69
Viscosity (Saybolt Universal), sec. at 100° F.	52
Color	Green

Hempel Distillation (Air)

Temperature, °F.—	Per cent cut	Sum, per cent	Sp. grav. cut	°A.P.I. cut	Viscosity	Cloud test °F.
Up to 122	....	....	.....	....	...	...
122-167	0.6	0.6				
167-212	2.0	2.6	0.703	69.8	...	...
212-257	5.2	7.8	.729	62.6	...	...
257-302	5.3	13.1	.747	57.9	...	...
302-347	5.7	18.8	.763	54.0	...	...
347-392	5.3	24.1	.781	49.7	...	...
392-437	5.7	29.8	.796	46.3	...	...
437-482	6.0	35.8	.809	43.4	...	...
482-527	6.9	42.7	.819	41.3	...	...

Hempel Distillation (Vacuum)

Up to 392	5.3	5.3	0.840	37.0	41	18
392-437	6.1	11.4	.844	36.2	46	42
437-482	6.2	17.6	.858	33.4	55	62
482-527	5.2	22.8	.866	31.9	76	72
527-572	6.1	28.9	.879	29.5	120	80

Carbon residue of residuum, 4.4 per cent.

	Per cent	Specific gravity	°A.P.I.	Viscosity
Light gasoline (up to 212° F.)	2.6	0.703	69.8	...
Total gasoline and naphtha	24.1	.750	57.2	...
Kerosene distillate	18.6	.809	43.4	...
Gas oil	11.2	.843	36.4	...
Nonviscous lubricating distillate	12.0	0.849–0.873	35.2–30.6	50–100
Medium lubricating distillate	5.7	.873– .886	30.6–28.2	100–200
Residuum	28.7	.920	22.3	...

CANADIAN (MOSA FIELD, ONTARIO) CRUDE OILS

Gravity, °A.P.I.	34.0
Sp. gr. at	0.855
Sulfur, per cent	0.85
Pourpoint, °F.	Below 5
Water, per cent	Nil
Viscosity (Saybolt Universal), sec. at 70° F.	88
Viscosity (Saybolt Universal), sec. at 100° F.	62
Color	Green

Hempel Distillation (Air)

Temperature, °F.—	Per cent cut	Sum, per cent	Sp. grav. cut	°A.P.I. cut	Viscosity	Cloud test °F.
Up to 122	0.7	0.7				
122-167	1.3	2.0	0.695	72.1	...	...
167-212	1.6	3.6				
212-257	3.5	7.1	.731	62.1	...	...
257-302	4.3	11.4	.753	56.4	...	...
302-347	4.3	15.7	.772	51.8	...	...
347-392	3.7	19.4	.791	47.4	...	...
392-437	5.1	24.5	.803	44.7	...	...
437-482	5.9	30.4	.815	42.1	...	...
482-527	6.7	37.1	.825	40.0	...	...

Hempel Distillation (Vacuum)

Up to 392	3.3	3.3	0.841	36.8	41	24
392-437	7.6	10.9	.847	35.6	46	58
437-482	6.9	17.8	.858	33.4	57	60
482-527	6.3	24.1	.866	31.9	80	70
527-572	6.7	30.8	.881	29.1	125	80

Carbon residue of residuum, 4.9 per cent.

	Per cent	Specific gravity	°A.P.I.	Viscosity
Light gasoline (up to 212° F.)	3.6	0.695	72.1	...
Total gasoline and naphtha	19.4	.750	57.2	...
Kerosene distillate	17.7	.815	42.1	...
Gas oil	9.8	.845	36.0	...
Nonviscous lubricating distillate	14.0	0.851–0.872	34.8–30.8	50–100
Medium lubricating distillate	7.0	.872– .888	30.8–27.9	100–200
Residuum	29.7	.956	16.5	...
Distillation loss	2.4	....	....	...

CANADIAN (FORT NORMAN FIELD, MACKENZIE RIVER, NORTHWEST TERRITORIES) CRUDE OILS

Gravity, °A.P.I.	35.8
Sp. gr. at	0.846
Sulfur, per cent	0.33
Pourpoint, °F.	Below 5
Water, per cent	Nil
Viscosity (Saybolt Universal), sec. at 70° F.	48
Viscosity (Saybolt Universal), sec. at 100° F.	41
Color	Dark green

Hempel Distillation (Air)

Temperature, °F.—	Per cent cut	Sum, per cent	Sp. grav. cut	°A.P.I. cut	Viscosity	Cloud test °F.
Up to 122	0.6	0.6				
122-167	2.2	2.8	0.672	79.1	...	...
167-212	5.1	7.9	.709	68.1	...	...
212-257	7.1	15.0	.735	61.0	...	...
257-302	6.9	21.9	.756	55.7	...	...
302-347	6.0	27.9	.776	50.9	...	...
347-392	5.5	33.4	.795	46.5	...	...
392-437	5.8	39.2	.810	43.2	...	...
437-482	5.8	45.0	.825	40.0	...	...
482-527	6.0	51.0	.838	37.4	...	...

(Continued on Next Page)

Hempel Distillation (Vacuum)

Up to 392	5.2	5.2	0.859	33.2	43	Below 5
392-437	5.8	11.0	.870	31.1	49	30
437-482	5.1	16.1	.881	29.1	67	50
482-527	4.9	21.0	.889	27.7	109	66
527-572	5.9	26.9	.907	24.5	230	82

Carbon residue of residuum, 2.8 per cent.

	Per cent	Specific gravity	°A.P.I.	Viscosity
Light gasoline (up to 212° F.)	7.9	0.696	71.8	...
Total gasoline and naphtha	33.4	.747	57.9	...
Kerosene distillate	11.6	.817	41.7	...
Gas oil	14.5	.851	34.8	...
Nonviscous lubricating distillate	9.0	0.870–0.887	31.1–28.0	50–100
Medium lubricating distillate	5.2	.887– .903	28.0–25.2	100–200
Viscous lubricating distillate	4.2	.903– .917	25.2–22.8	Above 200
Residuum	21.3	.964	15.3	...
Distillation loss	.8	....	....	...

CANADIAN (STONY CREEK FIELD, NEW BRUNSWICK) CRUDE OILS

Gravity, °A.P.I.	37.2
Sp. gr. at	0.839
Sulfur, per cent	0.10
Pourpoint, °F.	20
Water, per cent	Nil
Viscosity (Saybolt Universal), sec. at 70° F.	120
Viscosity (Saybolt Universal), sec. at 100° F.	90
Color	Green

Hempel Distillation (Air)

Temperature, °F.—	Per cent cut	Sum, per cent	Sp. grav. cut	°A.P.I. cut	Viscosity	Cloud test °F.
Up to 122	1.8	1.8	0.660	82.9	...	...
122-167	1.3	3.1	.675	78.1	...	...
167-212	2.3	5.4	.704	69.5	...	...
212-257	3.3	8.7	.728	62.9	...	...
257-302	3.5	12.2	.748	57.7	...	...
302-347	3.5	15.7	.762	54.2	...	...
347-392	3.1	18.8	.778	50.4	...	...
392-437	3.6	22.4	.790	47.6	...	...
437-482	4.0	26.4	.802	44.9	...	...
482-527	4.5	30.9	.812	42.8	...	...

Hempel Distillation (Vacuum)

Up to 392	2.4	2.4	0.820	41.1	38	32
392-437	5.1	7.5	.824	40.2	43	54
437-482	5.4	12.9	.831	38.8	50	71
482-527	4.5	17.3	.841	36.8	64	90
527-572	6.8	24.1	.853	34.4	92	96

Carbon residue of residuum, 3.2 per cent.

	Per cent	Specific gravity	°A.P.I.	Viscosity
Light gasoline (up to 212° F.)	5.4	0.683	75.7	...
Total gasoline and naphtha	18.8	.734	61.3	...
Kerosene distillate	12.1	.802	44.9	...
Gas oil	10.2	.825	40.0	...
Nonviscous lubricating distillate	12.2	0.831–0.856	38.8–33.8	50–100
Medium lubricating distillate	1.7	.856– .860	33.8–33.0	100–200

PERUVIAN CRUDE OILS

The Lobitos crude from Peru is nonwaxy and is characterized by a high-gravity, high-gasoline content. The total gasoline content ranges from 34 per cent to 42.3 per cent, depending upon the sample. The sulfur content varies from .07 per cent in one sample to 0.12 per cent in another. There are two refineries in Peru having a total daily capacity of 17,000 bbls. with 6,800 bbls. daily cracking capacity.

Fractions removed:	Lobitos crude None	Lobitos crude 392° F. gasoline	Lobitos crude Topped crude	El Condor crude None	El Condor crude 300° F. gasoline	El Condor crude 350° F. gasoline	El Condor crude 400° F. gasoline	El Condor crude Topped crude
Hempel Distillation								
Yields, vol. per cent of crude	100.0	34.0	65.0	100.0	22.3	30.6	37.7	77.2–68.9–61.1
Properties of Fractions								
Gravity, °A.P.I.	36.7	57.1	26.9	37.2	61.5	58.0	55.0	28.2
Sp. gr. at 60° F.	....	....	....	....	....	....	....	....
Color, °Saybolt	....	30	....	....	....	....	....	....
Copper dish gum, mg./100 cc.	....	3	....	....	....	....	....	....
Doctor test	....	Negative	....	....	....	....	....	....
Sulfur, per cent	.07	.02	.10	....	....	....	....	....
Octane number (C.F.R. Motor Method)	....	60	....	....	66	62	57	....
Flashpoint (Cleveland Open Cup), °F.	....	....	190	....	....	....	....	210
Fire (Cleveland Open Cup), °F.	....	....	220	....	....	....	....	235
Flashpoint (Pensky-Martens), °F.	....	....	180	....	....	....	....	200
Viscosity (Universal), sec. at 100° F.	....	....	....	....	....	....	....	....
Viscosity (Universal), sec. at 122° F.	....	....	....	....	....	....	....	....
Viscosity (Furol), sec. at 77° F.	10	....	17	....	....	....	....	....
Viscosity (Furol), sec. at 122° F.	....	....	....	....	....	....	....	15
B.S.&W., per cent	Trace	....	Trace	....	....	....	....	Trace
Cold test, °F.	10	....	Below 0	....	....	....	....	Below 0
Engler Distillation								
Initial B.P.	°F. 176	°F. 148	°F. 395	°F. 160	°F. 121	°F. 126	°F. 138	°F. 423
Per cent distilled over:								
5	238	177	424	212	170	176	188	462
10	269	194	449	240	182	192	205	478
20	330	214	482	294	196	210	225	510
30	386	....	524	350	206	222	241	548
50	535	255	629	494	220	248	270	644
70	688	....	726	654	235	275	303	732
90	....	328	....	....	261	313	352	....
Endpoint	....	389	....	....	300	350	401	....
Total per cent over	99.0	98.0	99.0	98.5	98.0	99.0	99.0	98.0
Per cent bottoms	....	1.0	....	....	1.0	1.0	1.0	....
Per cent coke by weight	1.2	....	1.5	1.6	....	....	....	2.3
Per cent loss	....	1.0	....	....	1.0	....	....	....
Per cent at 400° F.	31.0	....	....	37.5	....	....	....	....
Per cent at 410° F.	33.0	....	3.0	....	....	....	....	....
Per cent at 437° F.	36.5	....	8.0	42.5	....	....	....	2.0
Per cent at 572° F.	56.0	....	40.0	60.0	....	....	....	35.0

ANALYSES OF POLISH CRUDES

There are four types of crude oils produced in the oil-bearing districts of Poland. The first type is predominantly paraffinic, the second is naphthenic, the third is a mixed base of paraffins and naphthenes, and the fourth contains large amounts of aromatics, unsaturated hydrocarbons, or terpenes. The A.P.I. gravity of the crudes varies from 28.5 to 43.5 with a gasoline content from 16.5 to 44.2 per cent.

There are 16 refineries in Poland treating 20,750 bbls. of crude oil daily with two refineries each having a 1,000-bbl. per day cracking capacity. Some refineries not listed have capacities as low as 20 bbls. a day producing gasoline, naphthas, kerosene, lubricating oils, waxes and coke.

Well—	Specific gravity	Sulfur (per cent)	Gravity °A.P.I.	Summarized yield: Gasoline (per cent)	Naphtha (per cent)	Fuel and lubricating oils (per cent)	Asphalt residue (per cent)	Losses	Paraffin in crude oil: Per cent	Paraffin in crude oil: Melting point (°F.)
Potok No. 144	0.822	0.09	40.5	44.22	16.85	30.21	8.07	0.65	0.23	....
Grabownica No. 5	0.822	0.08	40.5	36.46	21.46	32.50	8.58	1.00	0.24	....
Harklowa No. 12	0.885	0.15	28.5	18.07	12.65	49.45	18.93	0.90	0.50	....
Kroscienko No. 43	0.883	0.09	28.7	16.52	18.05	45.64	19.24	0.55	0.35	....
Weglowka No. 114	0.867	0.13	31.4	28.77	7.13	39.79	23.74	0.57	0.44	....
Rococce No. 42	0.852	0.10	34.5	33.43	16.27	37.02	12.70	0.58	0.30	....
Uryca No. 83	0.875	0.20	30.0	24.67	16.14	46.93	9.93	2.33	0.15	....
Schodnica "Dziunia"	0.839	....	37.0	26.89	22.55	30.82	18.55	1.24	0.23	....
Jaszczew No. 3	0.840	0.10	37.1	29.34	25.15	28.63	16.50	0.38	0.37	....
Borysław Boxal	0.850	0.24	35.0	20.63	27.21	.....	17.88	0.92	8.20	48.5
Borysław Konrad No. 4	0.850	....	35.0	19.20	25.09	.....	10.57	1.06	8.90	48.5
Tustanowice Herzfeld No. 3	0.852	0.26	34.4	20.68	38.17	.....	11.74	0.94	9.60	48.0
Mraznica Joffre No. 5	0.860	0.27	33.0	17.27	30.10	.....	11.38	0.77	9.30	48.5
Mraznica Petain No. 1	0.869	0.23	31.0	16.54	28.26	.....	.....	....	....	....
Bitkow No. 43	0.808	0.28	43.5	33.50	35.38	.....	6.54	1.33	3.40	47.0
Bitkow No. 113	0.827	0.37	39.5	25.41	35.33	.....	13.29	1.51	3.65	51.0
Pasieczna No. 3	0.811	0.13	43.0	32.45	53.40	.....	3.07	1.04	2.34	44.8
Pasieczna No. 4	0.838	0.48	37.5	20.84	34.27	.....	7.35	1.69	4.91	51.5
Rypne No. 24	0.841	0.29	36.7	22.58	33.56	.....	10.50	0.44	4.52	49.0
Wankowa No. 18	0.848	0.29	35.8	21.58	23.52	.....	9.73	2.92	3.35	49.0
Schodnica "Ferdinand"	0.829	0.16	39.0	32.70	17.77	14.37	10.47	1.48	2.73	49.5

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New Booster Stations Increase Capacity of Valley Pipe Line

By GEORGE WEBER

After a year and a quarter of satisfactory uninterrupted operation, the 88-mile oil pipe line of the Valley Pipe Line Co. has met favorably with the expectations of engineers who designed it and supervised its construction. At the time of construction, the project attracted considerable interest as one of the longest oil lines to be laid with the use of Dresser couplings. The character of the soil through which the right-of-way passes presented new problems in pipe line laying in the district, further adding to the uniqueness of the undertaking. A survey of the line's operation over the past 15 months furnishes additional data on the installation, and answers several questions which presented themselves at the time of installation.

OUTLET FOR SAMFORDYCE

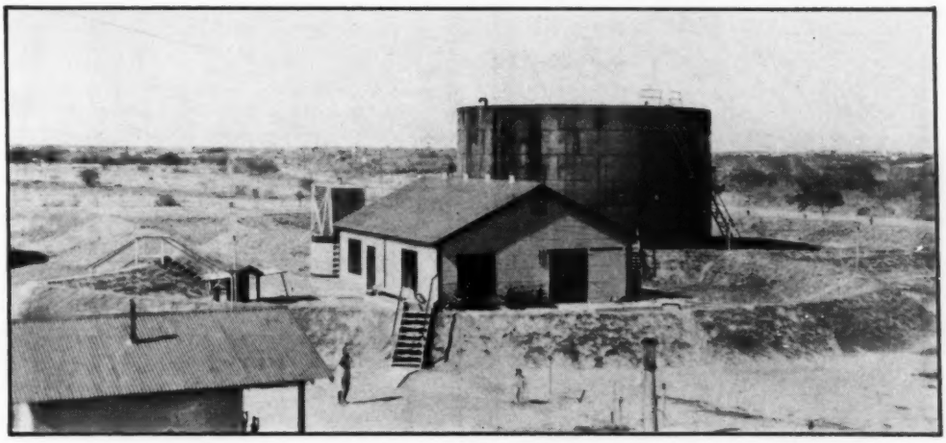
The line moves the entire crude production of the Samfordyce field in Hidalgo and Starr counties, Southwest Texas, down the Lower Rio Grande Valley to a deep water terminal located at Port Isabel near the mouth of the Rio Grande. The Valley Pipe Line Co. is one of three associated units with facilities in the valley to move, refine and market the products of Samfordyce crude. At the pipe line terminal in Port Isabel, the crude is charged to the new 6,000-bbl. plant of the Coastal Refineries, Inc. The refined products, consisting of furnace oils, fuel oil and naphtha are handled locally and loaded to coastwise tankers by the Port Isabel Terminal Co. Marketers are supplied on the Atlantic Seaboard under long-term contracts.

When placed in initial operation on October 8, 1935, the 5½-inch line was equipped with one pumping station, located at the field tank farm in Samfordyce. The pipe was furnished in 40-foot random lengths, shipped by deep water to Port Isabel. Approximately 11,000 couplings were used in connecting the 88-mile line, and the only welding used in the line was on curves and at highway and canal crossings. The original pumping unit consisted of one Worthington 75-horsepower diesel, driving a Worthington sidepot type piston pump, capable of exerting a pressure of 850 pounds. All pumping units added later were of identical design.

Since its initial operation, changes were made in pressures along the line, in moving an increasing amount of crude from the field to the refinery. Shortly after the first crude was charged to the line, the increased amounts of oil to be handled necessitated the addition of other pumping equipment.

A second unit was added to the line November 25 at a midway point near Mercedes, and subsequent additions consisted of two other stations installed near McAllen and Barreda, and placed in operation April 26, 1936. Beginning with pressures as high as 650 pounds at the Samfordyce station, the line was later subjected to a more evenly distributed pressure gradient along its length, with an average of 340 to 350 pounds at each of the stations at the present time. These changes in pressure conditions throughout the line have been withstood without leakage of any kind at the coupling points, and operators have expressed complete satisfaction with the type of installation chosen.

In breaking the line for installation of additional pumping stations, the couplings were found to be very tight, the rubber seats as live as when they were installed, and the pressure in drawing them up had made a complete seal between rubber and metal.



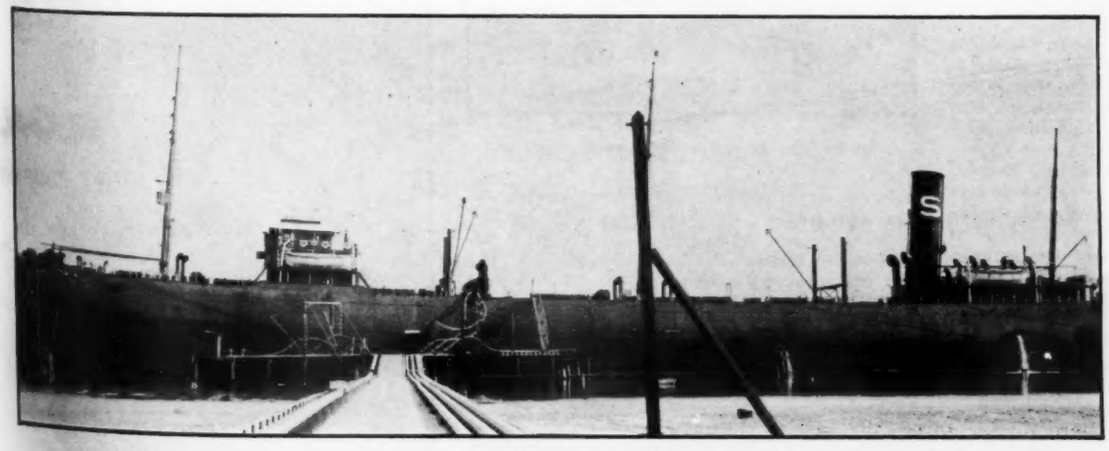
Field pump station and tank farm at Samfordyce. The dike surrounding the pump house was raised to protect it from possible floods from the Rio Grande River, a short distance to the south

Corrosion problems in the line, which were anticipated in its construction, have given no trouble in operations to date. The right-of-way was routed through what is known as the first two or lowest two moisture levels in the valley. As the line was the first to be laid in that area, construction engineers, working without any direct precedent took careful precautions in coating the line with asphalt paint, and in laying it in a 30-inch ditch to facilitate frequent inspection of the line. No appreciable corrosion has been noted, even in the extremely moist areas adjacent to the irrigation canals.

The intersections of the line with the numerous canals of the highly cultivated area gave construction engineers their most important problems in laying the line, and a careful check has been kept at these points since operation began. The 5½-inch line is welded inside a protective 8-inch casing and is laid to a depth of 15 to 17 feet under all canal crossings. In addition, valves were installed in the line at these points to facilitate inspection and possible repair.

Since the water flowing in

(Continued on Page 50)



New oil loading dock recently placed in operation in Corpus Christi harbor. The second of its kind to be added within the past year, this dock handles crude and refined products from the terminals of the Southern Minerals Corp., Corpus Christi Refining Corp., and other operators

Use of Gel Compound Aids in Acidizing Wells

By P. E. FITZGERALD and F. R. HOLLAND
Dowell, Incorporated

The fact that oil and gas production from wells can be increased by properly controlled chemical treatments is well known by the industry.

That the physical and chemical characteristics of the solvents used in chemical well treating are important factors in the response a well makes to treatment was early recognized by treating engineers, but early in the development of the acidizing process it was also found that methods of applying the chemicals to the well often were mainly responsible for satisfactory results being obtained. Control of the treating solutions, therefore is of as much importance as the selection of the proper type of solvent.

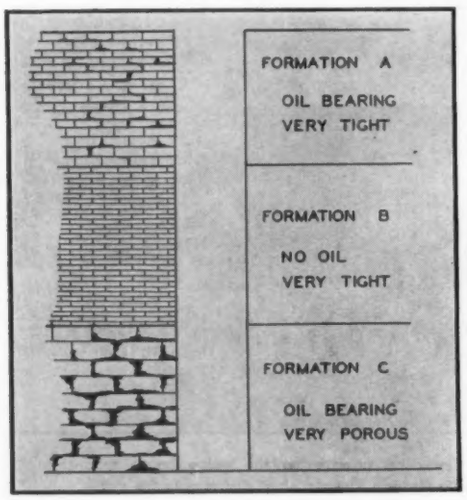


Fig. 1—Diagram showing situation found in many oil-producing wells; two oil-bearing formations separated by a barren formation

TEMPORARY PLUGGING AGENT

Figure 1 represents a situation found in many wells throughout all oil-producing areas and which is an extremely frequent occurrence in Oklahoma due to local geological conditions, particularly in the Greater Seminole area, Fitts, Oklahoma City and other fields located north of Oklahoma City along the Granite Ridge trend. This illustration shows two oil-bearing formations, A and C, separated by a barren tight formation B. For example, this might represent the Sylvan shale separating the Hunton and Viola limestones; or the first Bromide sand separating the Viola lime from the second Bromide sand; and also demonstrates how the middle barren Haragan member of the Hunton lime in the Fitts pool separates the porous Bois d'Arc and Chimney Hill limestone members.

In the Seminole area, for example, the very porous Wilcox sand is often producing practically nothing but water, while the Simpson dolomite or Viola above are open and carry oil. If a conventional acid treatment were made in such a well, the acid would naturally go into the Wilcox and no results would be obtained. The Wilcox is so porous temporary plug-back materials are not effective. Until very recently the only method of obtaining results was to plug the Wilcox and treat on top of the plug, but this was very unsatisfactory and expensive method and might preclude future production from the Wilcox sand.

In Fitts it was desirable to have the Viola lime, the Bromides and McLish sands exposed for production. (See Figure 2.) In the first acidizing treatments made on wells at Fitts in which this entire section was exposed, it was found that the lower sandy members were more permeable than the Upper Bromide and Viola, and that a considerable portion of the acid went into the sandy members, resulting in a lesser increase in production than would have been obtained had the acid been confined to the Viola and Upper Bromide sandy lime sections. In order to overcome this

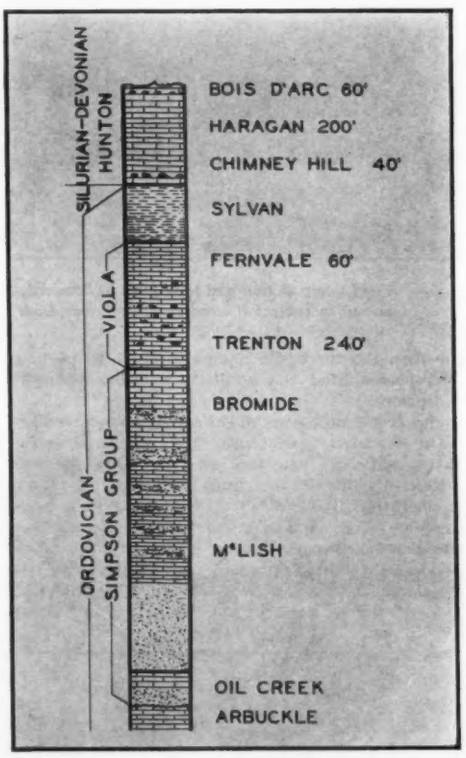


Fig. 2—Type log of lower Fitts pool formations

unprofitable condition, "successive treatments" were employed.

In such an acidizing program, the well was first drilled through the Viola and acidized. The well was then drilled through the Bromide and acidized. Later the well was deepened to the desired total depth and completed. The rotary rig would be tied up four or five days during these treatments, thus accounting for an added expense of approximately $1,000 to the operator.

LABORATORY DEVELOPMENTS

The solution of the above problem seemed to be a plug which would effectively block off the lower horizons, and which could be removed after treatment so that no permanent plugging could take place. This desired material could not be a liquid because it would run back into the formation ahead of the acid. Likewise, this material could not be at all similar to ordinary cement or mud since their use might plug the lower horizon.

An extensive search produced an organic jellifying material capable of setting to a firm jelly when mixed with water. Such a material can easily be introduced into a well as a liquid dispersion or solution, but will become a solid or semisolid jelly on the way down through the well tubing or after it has reached the bottom of the hole.

PROPERTIES OF GEL

This compound has some unique properties making it particularly adaptable to certain well treatments and is known as jelly seal. It gathers the water, with which it is mixed, into large, slow-moving globules and requires high pressure to make it enter the pores of a formation. For example, a flow tube (Figure 3) packed with fine sand to give a permeability similar to the Wilcox or other permeable sandstones is penetrated only three-quarters of an inch under a pressure differential of 750 pounds per square inch. This pressure differential is more than is needed in practically any commercial treatment to obtain the desired control of the acid. Little or no pressure is necessary to start flow from within a sand that is sealed, as is demonstrated by the fact that a 40-pound pressure in the reverse direction in this test is sufficient to remove the sealing compound. Added precautions have also been taken to secure complete removal of the seal from the face of the formation. Since the seal is an organic material it is innoculated with bacteria which decompose it after a controllable interval of time. The type of bacteria used is a common and harmless variety which can be easily propagated at the field treat-

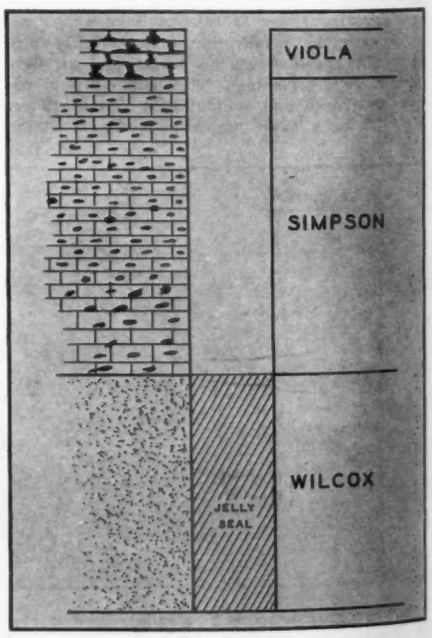


Fig. 4—Type log of Polo field formations

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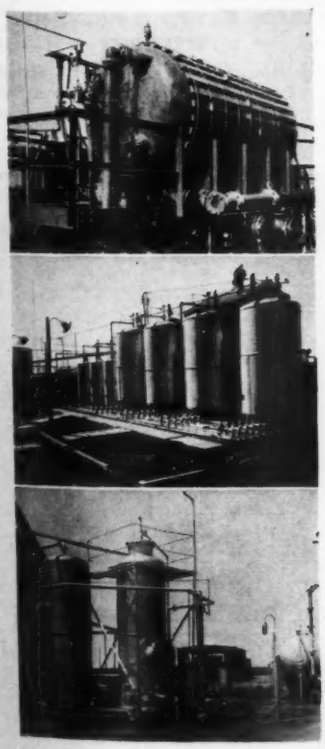

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ing station, and is one which will be effective at temperatures existing at the bottom of the hole. The jelly may also be liquified by the addition of certain chemical agents. The gelling time as well as the specific gravity are subject to control by methods and quantities used in mixing as well as by the addition of other chemical agents.

The first treatment in the Mid-Continent area using this product was made on a well in the Polo field, Logan County, Oklahoma. Oil was being produced from the Viola, Simpson and Wilcox formations. (See Figure 4.) This well came in originally with 8 bbls. per hour from the Viola lime, 5 bbls. per hour from the Simpson and 140 bbls. per hour from the Wilcox, but had declined to a total of 40 bbls. per hour at the time of the treatment.

Since the Wilcox sand was extremely permeable on the basis of the above original production rates and further since it was not desirable to waste the acid by allowing it to go into the sandy Wilcox, the entire 31 feet of Wilcox section were blocked off with jelly seal, and followed by a 2,500-gallon acid treatment. On the 24-hour test following treatment, the well flowed 700.75 bbls. during the last four hours of the 24-hour test, an average of 175.19 bbls. per hour. The success of this treatment may be attributed to the treating technique since an offset well treated in a conventional manner failed to respond.

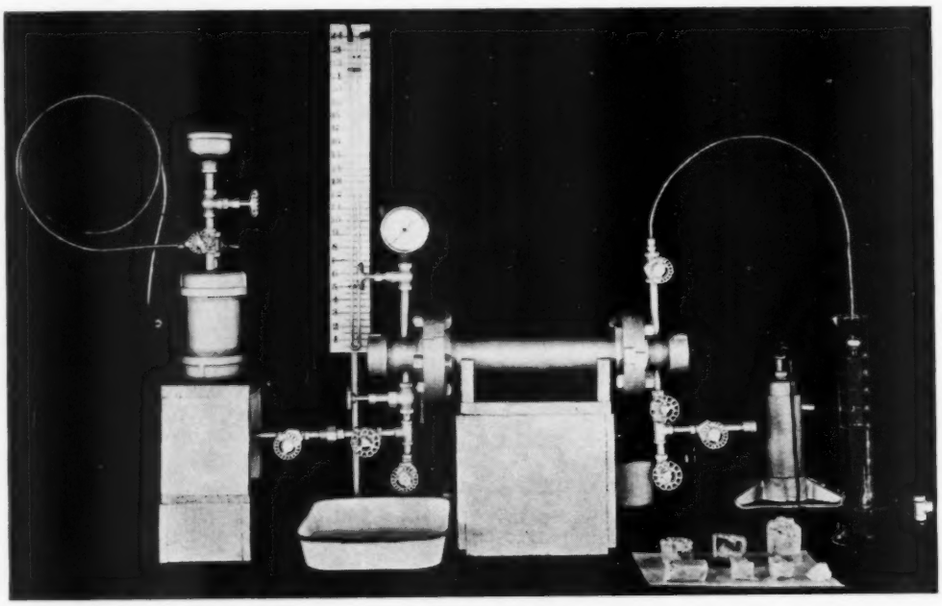

Fig. 3—Laboratory equipment used to test the penetration of the gel into packed sand

Another example of the results gained by this improved method of acid control is found in the Oklahoma City field, where a well was producing from the Simpson dolomite. (Figure 5.) This well when first treated failed to respond. A study of the section revealed that in all probability the 3,000 gallons acid used had gone into a very permeable 15-foot sand streak topped at 64 feet in the Simpson lime, rather than into the first 64 feet of dolomitic lime that carried considerable oil. Consequently it was decided that although the well was uneconomic an effort would be made to increase production by the use of the seal. The Simpson sand and dolomite section from 6,680 to 6,746 feet was blocked off with jelly seal and acid forced into the 64 feet of dolomite above it. Upon opening the well after treatment it obtained a potential of 7,000 bbls.

Still another example is found in the Britton area where a well treated twice in a conventional manner failed to produce results. A study of the electrical log revealed that good saturation but low porosity were indicated at 6,558 to 6,600 feet. Jelly seal was therefore used to block off the unproductive highly porous section below the pay and the well acidized. The production was increased about 100 per cent.

There have been more than 50 wells treated using this improved technique in the Fitts pool. A study of these treatments reveals that in most cases they have been highly successful and profitable. The average October allowable on these 50 wells was 509 bbls. greater than on the wells acidized without using the sealing compound.

In section 28-2n-7e two wells were treated using this seal to aid in controlling the acid. Seven other wells on offset locations and leases were acidized without its use. On the two jelly seal treated wells the daily potential following treatment averaged 5,341 bbls, while the average daily potential on the seven offset wells was only 3,951 bbls. The use of this method therefore appeared responsible for a 35 per cent increase in potential.

Another example is found in section 27-2n-7e, Oklahoma, where a well treated in the improved manner was given an allowable of 109,506 bbls. to be produced in the next two years while four other wells nearby treated in a conventional manner only obtained a two-year allowable of 88,646 bbls. each.

This chemical has also proved its value in other areas as for example in the Denver-Chippewa pool near Mount Pleasant, Mich. Wells in this area produce from the Dundee limestone of Devonian age and are characterized by rather rapid production declines. When the wells are acidized they do not develop any back pressure, indicating a very permeable formation.

The small return from conventional acid treatments led treating engineers to believe that the acids were entering a bottom, permeable, non-productive pay.

Consequently a 60-bbl. pumper was treated with sealing compound and followed by 2,000 gallons of acid. The result was a 165-bbl. flowing well.

Two other wells in the same area were treated in a conventional manner upon completion, resulting in 40-bbl. pumping wells. The second treatments on these wells employing the new technique resulted in a flow of 253 bbls. and 65 bbls. daily.

FUTURE USES

The possibility of temporarily plugging back and successfully acidizing upper formations has been pointed out above. However, there is an even greater future for this product where it is desir-

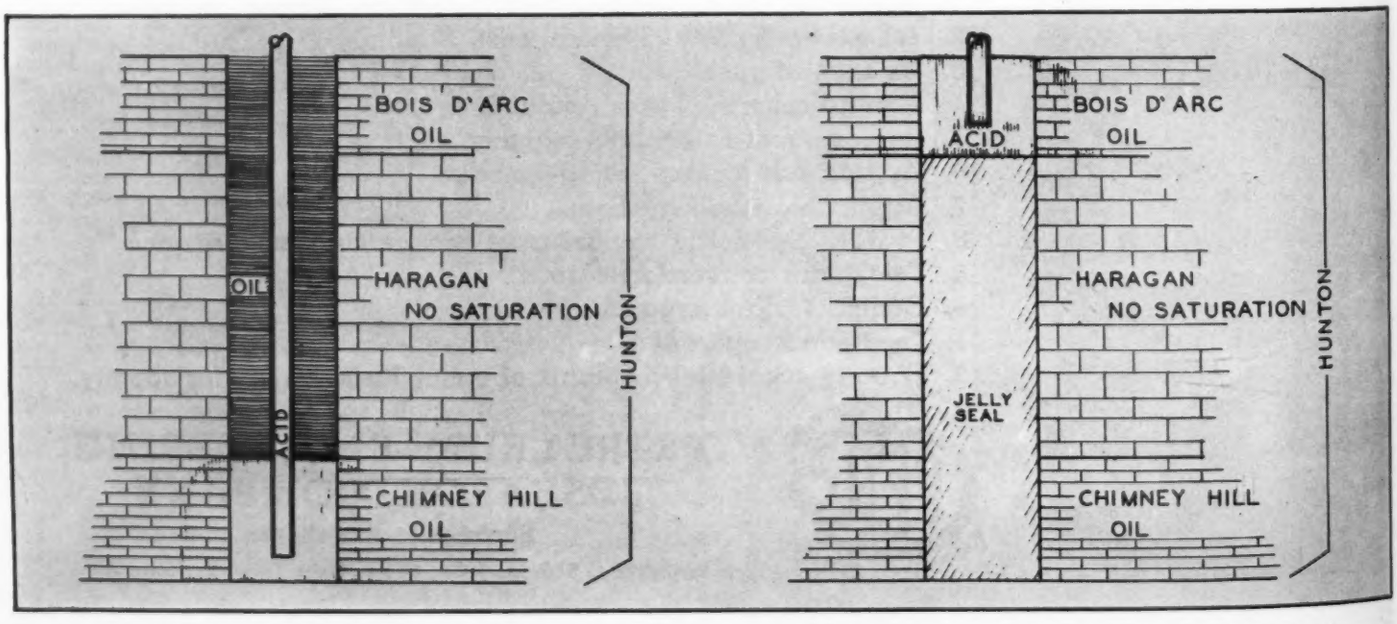

Fig. 6—Steps taken in the two-stage treatment of Hunton wells in the Fitts pool. The Chimney Hill is the first acidized (left diagram) and then, after the tubing is raised, the top formation or Bois d'Arc

able to obtain more definite control of the acid in the treatment of one formation only. For example, a lime formation may be producing considerable quantities of water from the lower part of the section. The use of a seal will allow the intrduction of acid into only the upper part of the formation and its application therefore may be considered a method of water control when used as part of an acidizing treatment.

Two examples which demonstrate this means of water control are found in Texas. One well operated by a major company in Ector County producing 174 bbls. of oil and 3½ bbls. of water was treated with seal followed by acid. The result

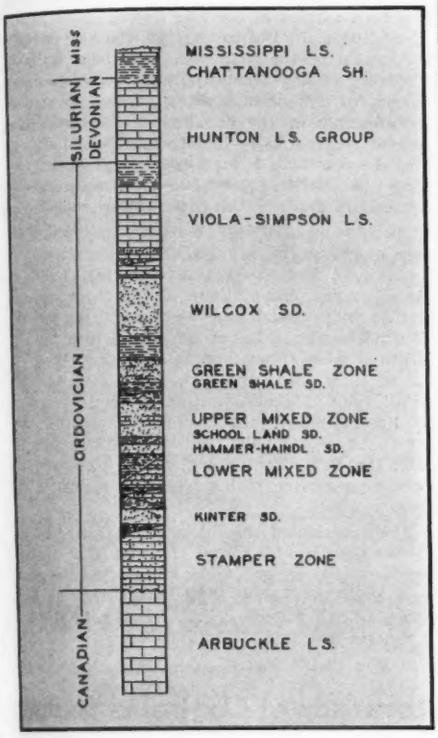

Fig. 5—Type log of the Oklahoma City field

was 456 bbls. of oil daily and no water. Another well in Glasscock County having two pays, the lower producing water, was acidized after the water horizon was blocked off, and resulted in 96 bbls. of oil and negligible amounts of water. Pretreatment production was 300 bbls. of fluid of which only 12 per cent was oil.

Of equal importance is the possibility of more evenly distributing the acid into all the members of one producing formation. The discussion of Figure 1 above pointed out the possibility of an improved treatment of the Hunton formation in the Fitts pool. Here production is obtained from the Bois d'Arc and Chimney Hill members of this formation. (See Figure 6.) Due to the great thickness of the Hunton in Fitts, it is very probable that conventional acidizing will increase production only from the Chimney Hill member, which is at the very bottom of the formation. In order to overcome this, it would be necessary to rely upon the successive treatment method or possibly setting a packer and treating both above and below the packer. The disadvantages of the first method have already been pointed out. The second method would produce inconsistent and unpredictable results, since the use of packers in connection with acidizing has never been as successful as anticipated.

One method which may be used in the treatment of Hunton wells in Fitts will be the newly developed two-stage treatment. (Figure 6-A.) In this treatment the tubing will be placed close to the bottom of the hole and the Chimney Hill or lower pay will be acidized. Sufficient seal will then be introduced to cover both the Chimney Hill and the unproductive Haragan member of the Hunton. The tubing will then be raised to the top of Hunton and the pay section of the upper or Bois d'Arc member acidized. (Figure 6-B.) In

It's a CRIME!

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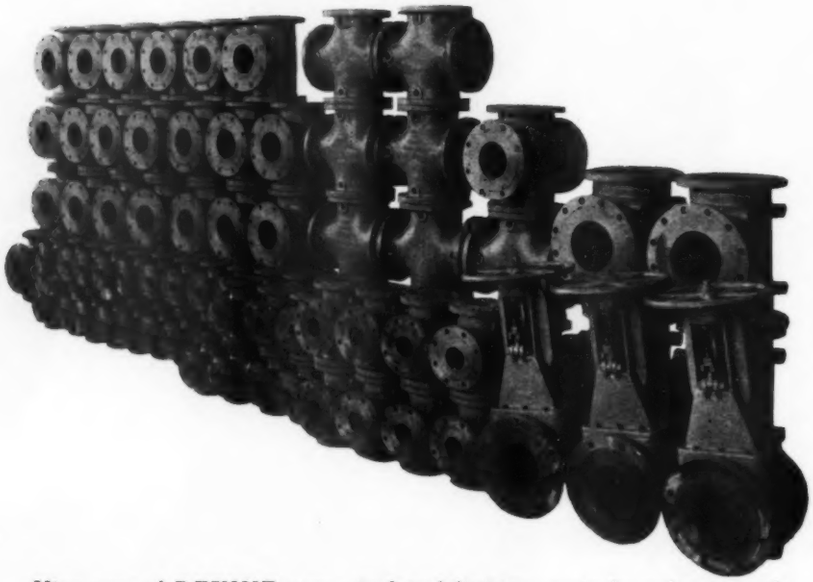

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this way it is made certain that the acid will be introduced into both pays of the Hunton lime and little or none wasted on the nonproductive Haragan member.

NEW BOOSTER STATIONS

(Continued from Page 45)

the irrigation canals is used extensively for irrigation and in some cases for domestic consumption, the presence of any oil seep would be readily detected. The precautions taken to prevent leakage have been entirely successful, and no trouble of that nature is anticipated.

A total oil movement exceeding 2,000,000 bbls. has been carried in the line during its 15 months of operation. In December, 1936, the average daily production of the field was 5,088 bbls. With the discovery of new producing sands, and the development of new production on proven acreage, the requirements of the oil line show every indication of continuing to increase. The flexibility afforded operations by addition of the pump stations along its length will care for a considerable increase in crude movements to deep water.

Besides an additional pumping unit which has been added at the Samfordyce station, further allowance for increased capacity has been built into the other pumping stations. At Mercedes, McAllen and Barreda, foundations were laid upon installation of the plants, for an additional pumping unit identical with those now in operation. With the use of these three units which could be installed readily and at a minimum of further investment, the line capacity could be boosted from 6,000 bbls. per day to 8,500 bbls. per day. By this arrangement the line offers ready outlet to deep water to any production which might be opened in the area.

Construction of the line was contracted by the Fredell Construction Co. of Houston. T. F. Murchison, as president, and E. M. Closuit, as vice president, head the Valley Pipe Line Co. at its head offices in San Antonio. H. H. Hensley, of McAllen, is superintendent.

Accuracy of Control is Feature of New Keystone Excavator

Accuracy of control, important when loads must be spotted exactly or when digging must be done to exact levels, is a feature of the new Keystone model 18A one-yard excavator developed by the Keystone Drilling Co., Beaver Falls, Pa. Use of planetary drives and oversize clutches, designed for efficient operation in service necessitating constant slippage of the clutch for long periods of time, along with smooth, easy control through the lever system is largely responsible for the greater precision.

This full-revolving one-yard excavator with planetary swing Mechanism, is built for a wide variety of digging, having one boom used in both trench-hoe and skimmer service and to which an extension may be attached for short-boom crane service. The machine is also available with a boom for dragline, clamshell and crane.

By means of the oversize clutches and planetary drives for both boom-swing and line movement, it is possible to ease loads into position with precision. Loads may be picked up as gradually or as quickly as desired and moved at the speed most practical. In close quarters the high degree of control and short tail swing facilitate many operations.

Model 18A is powered by Buda engines, either gasoline or diesel; or, if desired, by any standard make electric motor.

Welding Conference

The sixth annual welding conference and exposition of the industrial engineering department of Ohio State University will be held in Columbus, Ohio, on March 3, 4 and 5, according to an announcement by O. D. Rickey of the university who is in charge of the conference.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Cost of Wildcat Drilling by Steam or Diesel

To complete an examination paper I desire information to permit me to compare the cost of rotary drilling using steam power in one instance and diesel engines in another. I would like some figures on cost of water. Also fuel requirements and costs. I have in mind selecting an area such as western Kansas as the site of the drilling operations and any information you can give me will be appreciated—J. R. R.

Answer to your question is not as simple as might be supposed for general data of the kind desired is hard to get because there is no standard system of accounting used by operators or contractors and actual conditions in each pool varies widely.

In the Lorain pool, Kansas, water wells 300 feet deep cost about $250 complete. Cost of pumping is not available. Lifting costs will vary but you might use 15 cents per barrel for lifting and distributing the water.

Fuel for a 150-horsepower gas engine. On one well an engine of this kind consumed 800,000 feet of gas per well at a cost of 12½ cents per thousand.

Steam power with gas fuel under three 100-horsepower, 250-pound pressure boilers in the Keokuk Falls, Oklahoma field, where wells are about 4,150 feet deep. Total gas consumed 13,500,000 feet per well. Water consumed 44,950 bbls. per well. Twenty-two days elapsed time on each well.

A gas engine electric generator rig in the same field used 1,527,000 feet of gas per well and only 7,083 bbls. of water most for make up of mud. The water consumption given on the steam rig includes make-up water for the mud pits.

In New Mexico the water company serving Eunice field charged .0208⅓ cents per barrel when 1,000 bbls. of water was used each day for a three-boiler rig. Boilers rating 125 horsepower, 350-pound pressure. If 2,000 bbls. of water was used the price was about .016⅔ cents per barrel. These prices are based upon contract for water needed for a rotary well about 4,000 feet deep; $2,000 flat charge was made for 60 days' supply for a steam rig and $1,000 for water for a diesel engine rig for 60-day period. This information is all given in an article published in the November 14, 1935, issue of The Oil and Gas Journal, page 36.

Drilling prices will vary but for West Kansas the price will probably be nearer $6.50 per foot than $4 especially on wildcat wells where the diesel engines are used. For inside locations in proven areas the steam rigs might be used.

Operators have estimated that the use of steam rigs on wildcat wells cost from $2,500 to $3,500 per well extra. This figure covers the cost of laying a pipe line to nearest water and installing a pumping unit with attendant. Also the hauling of fuel oil to well where gas is not easily available.

Geological Age of Oil

I am interested to know from what geological age does oil come.—W. O. D.

Oil and gas occur in rocks of most geological ages, from almost the oldest of the stratified rocks to those of comparatively recent age. However, the greater part of the oil produced in the United States comes from Ordovician, Pennsylvanian, Cretaceous and Tertiary sediments.

Ordovician rocks which are very old geologically, produce oil and gas in northwestern Ohio and northeastern Indiana; the so-called Lima-Muncie field; also in Oklahoma where the producing horizon is known as the Wilcox sand.

Pennsylvanian rocks carry oil in Pennsylvania, Ohio, West Virginia, Kentucky, Illinois, Kansas, Oklahoma and northern Texas. The greater part of the oil in the Rocky Mountain states such as Colorado, Wyoming and Montana is from Cretaceous formations. The oil in the East Texas fields and from the Tampico district of Mexico is also of Cretaceous age. In Oklahoma the Madill field is the only one producing from Cretaceous rocks.

Tertiary rocks, which are rather young formations, produce oil along the Gulf Coast of Texas and Louisiana and in California.

Air or Gas Locks in Pipe Lines Can Be Eliminated by Proper Design

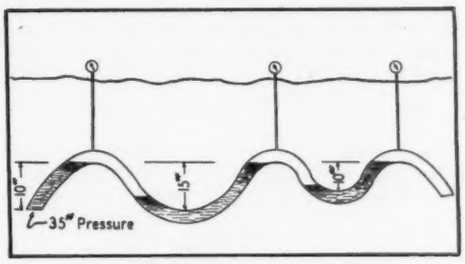
What is the theoretical explanation of the air or gas lock at up-bends in pipe lines carrying liquids? It is my understanding such a lock will resist almost any amount of pressure in the line even though the discharge end of the line be lower than the intake end.—H. W. B.

The fact that the discharge end of the pipe line is lower than the intake end will have no effect upon air or gas locks. The gas locks will occur where there are two or more up and down bends in the pipe line and the up-side slopes of these up-bends are steep enough to build up appreciable hydrostatic heads.

To create an air or gas lock in a pipe line it is first necessary that the line be empty or practically so. It can occur in a line where only a small amount of fluid is being handled but it is more liable to happen when an empty line is being filled. As the fluid moves forward in the pipe from the pump station and starts to move up a slope on an incline it will create a back-pressure against the pump. If part of the oil reaches the crest of the first up-bend and then runs down the down-side of the slope by gravity it travels ahead of the main stream and part of the fluid is separated. If a second up-bend is reached and this condition repeated there will be fluid in the valleys between the crests of three up-bends. With the down slope side filled with air or gas only conditions are right to cause the air or gas lock phenomenon.

The way to determine the location of a gas lock is to make a power profile of the pipe line. With a diagram of this kind it is possible to estimate the accumulative hydrostatic head created by the several up-slope sections along the pipe line. Starting at the up-slope farthest from the pump stations the procedure is to determine the pressure necessary to force the fluid up grade there. As an example assume this pressure is 10 pounds per square inch. The next step in the calculation is to find out the pressure gradient on the second slope which may be assumed to be 15 pounds per square inch. These two pressures added will make the total pressure needed to overcome the combined hydrostatic head necessary to force fluid up both grades 25 pounds. The next calculation is to find out the pressure needed to force the fluid up the first slope away from the pump station which may be another 10 pounds.

If these assumed conditions exist in a pipe line and there is fluid in the line in the valleys between each up-bend the combined pressure needed to force fluid through the line beyond the pump station and the down slope of the farthest up-bend will be the sum of the several different hydrostatic heads. In this instance this sum would be 10 + 15 + 10 or 35 pounds. The line may be cleared if more than 35 pounds pressure is exerted on the fluid at the pump station.



Typical pipe line air-lock condition

Another way to overcome the gas-lock condition is to bleed off the trapped gas between the bodies of fluid in the line. If this is done the fluid pumped up the slope of the first up-bend will flow down the other side and fill the line. As the fluid is then in balance on each side of the first up-bend it will move over the crest of the second up-bend if the air or gas has been allowed to escape from that section of the line. The fluid will then run down the second slope and join with the fluid already in the valley between the second and third up-bends and again be in balance. Under this condition as more fluid is pumped into the line the pressure will be carried forward over each of the up-bends and the fluid will flow through the line as desired. As long as air or gas lies between bodies of fluid it is difficult to overcome the air or gas lock because this air or gas can be compressed without actually allowing the fluid to be pumped over the crest of the up-bends.

The pressures used in the example may be varied through a wide range but the principle of estimating air or gas lock conditions will be the same and as they are well known to pipe line designing engineers they are usually eliminated wherever possible or if it is necessary to have several up and down sections in a pipe line connections are placed at all high points to permit of easy draining off of the air in the line when pumping is started or whenever an air or gas lock occurs.

Origin of Red Beds

I would like to know the origin of the red dirt and red rock in western Oklahoma, especially in Kingfisher and Blaine counties.—C. N. G.

The counties you name are located in what the geologists know as the area of red beds. The red beds consist of a great mass of red clay shales, in places several thousand feet thick, occupying the western part of Oklahoma. Along with these red shales there are ledges and beds of four other kinds of rock, namely, sandstone, gypsum, dolomite and salt. Of these sandstone is most abundant. The red beds as a whole are a very puzzling geological problem. They have been studied for more than 30 years but there are many things that no one thoroughly understands. It is known the red color is due to the presence of iron in the rock. It is also believed that these formations were probably deposited in shallow seas, deltas and estuaries, during Permian times, in a region where the ocean was drying up and retreating to the southwest.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Fractionator-Dephlegmator Defined and Why Insulate Towers

Could you advise me of the difference between a fractionator and a dephlegmator as used in the petroleum industry? Also why are these columns sometimes lagged and sometimes exposed? If they are lagged against heat loss, would they not lose a certain amount of efficiency?—S. P.

Dephlegmation is a process long used in the chemical laboratory for separating excess water from a compound or a liquid mixture either by evaporation or distillation. It was early applied in the alcohol industry for the separation of the larger part of the water contained in alcohol mixtures, by means of a column or tower attached to a still ahead of the condensing coils. The first towers contained no plates, each being simply a shell, but later forms were built with simple plates or shelves, so arranged that the hot vapors were caused to pass in a back-and-forth direction as they flowed upward through the tower to the condensing coils and any liquid condensing on the plates flowed downward to the bottom where they were drawn off. This is the form now extensively adopted by the petroleum refiner for the partial condensation of the vapors. The simplest operation being when only the highest boiling portions of the vapors are sufficiently cooled to collect at the bottom of the dephlegmator, to be returned to the still for further heating as recycle stock.

Fractionation is more complicated than dephlegmation. The vapors from petroleum being made up of a large number of hydrocarbons, many of which boil at temperatures quite close together, have to be separated by distillation and the vapors slowly cooled to obtain the different petroleum products now of commercial importance. This operation is accomplished by means of fractionating columns, or towers, and condensers. The best form of fractionation being known by the name "bubble tower." In this the plates are designed and arranged to cause the vapors to pass upward from plate to plate through the liquid which is progressively cooled; the slight drop in temperature from one plate to another being sufficient to cause some condensation. This liquid is trapped in sufficient volumn to form a trap on each plate. It contains high boiling compounds with some lower boiling compounds. The contact of vapors and liquid causes a bubbling action; hence the name bubble tower. This contact is intimate enough to release some light material to pass upward, operating to remove high boiling constituents which gradually flow toward the bottom of the tower. Most bubble towers are so arranged that a number of fractions, differing in boiling points, are removed from suitably located plates.

The dephlegmator permits only a rough division of petroleum liquids, frequently there are two products obtained, a distillate and a residue. In the fractionating tower the division is much finer; the boiling points, for example, of the separated portions, fractions, are much closer.

The lagging, or insulation, of dephlegmating and fractionating columns is applied, in petroleum practice, to insure a stable condition. That is, to permit the desired close control. The insulation is not used so much to prevent heat losses but to maintain a fixed temperature within the tower so as to make the operating conditions uniform at all times and simplify the control. If the tower surfaces (shells) were exposed to the atmosphere there would be fluctuations in temperature each day and night, also with the seasons, with sometimes quite sudden changes. Such conditions make control of the tower temperatures impossible. With adequate insulation differences between the bottom and top tower temperatures are frequently confined to 100° F. Irregular temperatures of course result in a lack of uniformity in the distilling ranges of the products.

Some refiners, favorably located, have the insulation on the towers so arranged that it may be quickly adjusted to meet changes in atmospheric temperatures.

California Method for the Grading of Diesel Fuel Oils

Will you kindly give me a description of the California method for grading fuel oils intended for use in diesel engines?—T. R. N.

There is a method for grading diesel fuel oils which has been described in the S.A.E. Journal, Transactions, by J. R. MacGregor, of the Standard Oil Co. of California. The results are stated in centane numbers as determined from test data found by actual run of the oil in a modified C.F.R. knock testing apparatus. The engine is briefly described here.

The engine is equipped with an automatic injection timer which admits oil in two successive injections and then continues for 28 periods with no fuel injected into the cylinder, being replaced with air. The pressure is fixed at 2,000 pounds per square inch.

When ignition of the oil occurs it is indicated by the flash of a neon tube operating through a device on a spark plug set in the opening for the bouncing pin. The material surrounding the plug points is ionized as the flame passes, then the current flows and the neon flashes. Observing the compression pressure the corresponding centane number is obtained from a curve.

Reference: J. R. MacGregor, Diesel Fuels—Significance of Ignition Characteristics, S.A.E. Journal Transactions, 31, 217, 1936.

SPECIFICATIONS

PETROLATUM

There are no standard specifications covering petrolatum; the trade accepts the material according to color and melting point. The terms designating color are: Snow White, Lily White, Cream White, Light Amber, Red and Dark Green. A more accurate scheme is to grade for color by the A.S.T.M. Colorimeter as used for lubricating oils, with the same numbers; the petrolatum being examined while liquid.

Petrolatum as required for the arts and industries is specified in several particulars. In addition to color and melting point, there may be requirements for consistency, specific gravity, viscosity, odor, taste, corrosion and reaction.

References: A.S.T.M. Standards on Petroleum Products, September, 1936, pages 77, 222 and 235. Gurwitsch-Moore, Petroleum Technology, pages 552-556.

Arrangement of Butane Conversion Equipment for Field Use

We have noted the scheme for butane conversion you have mentioned in The Oil and Gas Journal of December 3 and wish to suggest that the following as approved by the Industrial Accident Commission of the state of California is much better.—G. W.

Four distinct stages are required to prepare the liquid butane, for the engine. Initial regulation, application of heat, final regulation and carburetion.

Butane is held in the fuel tank at its vapor pressure which may vary as much as 150 pounds per square inch according to the quality and temperature. The initial regulator reduces this variable pressure to about 10 pounds and delivers liquid and vaporized butane to the heat exchanger. The valve of this regulator is water jacketed to prevent freezing which otherwise would result from the drop in temperature caused by the rapid expansion of the fuel. The fuel must be delivered to the heat exchanger after the first stage of regulation, thus taking advantage of the drop in temperature caused by expansion.

Fuel is delivered from the heat exchanger as a gas under 10 pounds pressure to the final regulator. This regulator is designed to deliver fuel to the carburetor at a pressure slightly below atmospheric. The function of this regulator may be compared to that of the float bowl of a gasoline carburetor. The function of either device is to supply an ample volume of fuel at a constant pressure to the metering or proportioning elements of the carburetor under such conditions as will cause the fuel to positively stop flowing when the demand for fuel has ceased. From this regulator the fuel flows directly to the carburetor.

The venturi type carburetor is more suitable than any other type for producing correct gas and air mixtures.

The only satisfactory method of making installations where both fuels must be readily available to the engine, is by the use of a combination butane and gasoline carburetor. Carburetors of this type are available and are provided with means for locking the float mechanism against the destructive effects of vibration. This is an absolute necessity in order to preserve the float mechanism during long periods of use without gasoline in the fuel bowl.

Conversions properly made which will result in an approximate gallon for gallon consumption and outside of any differential in cost, the advantages and savings from the utilization of butane as fuel may be summed up as follows: Increased power output, improved thermal efficiency, elimination of crankcase dilution, reduction of carbon deposits, elimination of obnoxious exhaust gas odors and lessening of fire hazards.

Troubles encountered in engines not performing as well as expected in the field are largely the result of hasty or incomplete adaptations of the engines to the use of butane and not to the fuel itself.

Fuel should be supplied that will have sufficient vapor pressure to give a pressure of 5 pounds per square inch at the minimum atmospheric temperature likely to be encountered in the district in which the equipment is used.

Engines are now available in several models up to 250 horsepower, operating with butane, natural gas, or diesel fuel oil. These are the vertical two-cycle type for heavy duty drilling.

Symphony OR JAZZ!?

LOOKING AT THE RECORD WON'T TELL YOU...

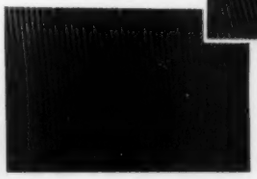
The human eye is not always the best means for interpreting sound vibrations. For example, a phonograph record may be examined through the best of modern microscopes without revealing the nature of the music it carries. When reproduced through a properly designed phonograph, however, the content of such a record is fully revealed.

Reflection records of earth vibrations present a similar situation. When reproduced on a machine, details are disclosed which are not evident to the eye. In the Rieber Sonograph System of geophysical exploration, reflected waves are recorded on sound film, producing a record which can be read and interpreted by the Rieber Sonograph Analyzer. From the multitude of waves recorded on the film, the Sonograph Analyzer singles out any one or any group, determines accurately the direction and time of arrival of each, and is not baffled by numerous and overlapping wave trains.

The original evidence gathered in the field and preserved on the sound film can be diagnosed repeatedly by the Sonograph Analyzer in the central laboratory, just as a record is played again and again on a phonograph. The exhaustive study of accurate data thus made possible enables the geologist and geophysicist to map satisfactorily structures formerly thought unshootable.

The Rieber Sonograph System is the *only* geophysical apparatus which interprets reflection records by a reproducing machine. It is the method of choice for all exacting problems in exploration.

A limited number of field parties is available for work in California, Mid-Continent and Gulf Coast areas.



A record of a symphony at top. Below, a popular dance tune. The vibrations on geophysical records, too, may be undecipherable to the eye, yet their true meaning is revealed when interpreted by a machine.

RIEBER *Laboratories*

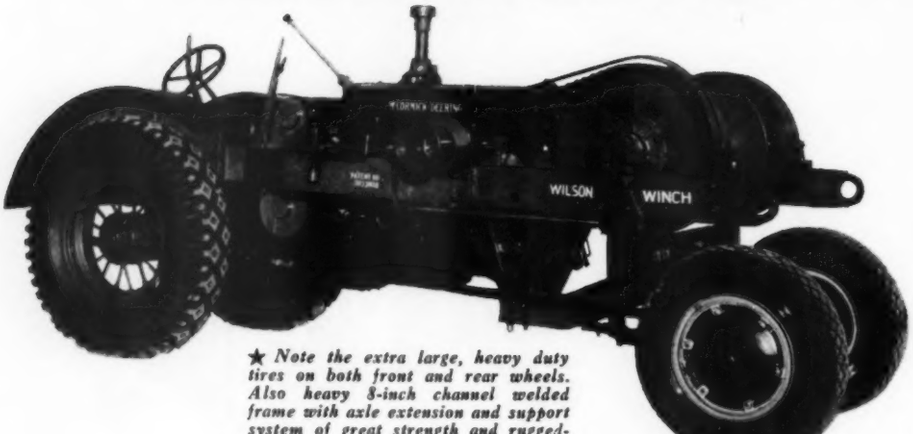
1007 BROXTON AVENUE • LOS ANGELES, CALIFORNIA

HOUSTON, TEXAS

WILSON Super Model WINCH

Front view of Wilson Super Model Winch mounted on International Harvester Company W-40 Tractor. Available with or without mast pole. Built in both Single and Double Drum types —with built-in or separate spudding attachment.

The MOST POWERFUL WHEEL TYPE TRACTOR WINCH BUILT—77 ACTUAL H.P.!



★ *Note the extra large, heavy duty tires on both front and rear wheels. Also heavy 8-inch channel welded frame with axle extension and support system of great strength and ruggedness.*

FOR WELLS FROM 2000 TO 5000 FEET

Where Sand, Mud or Bad Road Conditions Make It Impossible for Trucks to Operate.

●WINCH • • •

★ The same drum brake and counter shaft system used so successfully on Wilson Skid Type Winches.

★ The simplest, most accessible and efficient drive system yet used on any tractor winch.

★ Separate transmission for winch speeds provides a correct speed ratio—reduces wear on tractor parts and is much more accessible.

★ Dual Catheads standard equipment, and rotary drive clutch can be substituted for left hand cathead at small additional cost. This sprocket and clutch can be used to drive rotary table or cable tool spudding attachment.

★ Shift lever in tractor stops all winch chains and sprockets when on the road.

●TIRES • • •

★ Front tires are size 9:00x20—10 ply HEAVY DUTY TRUCK AND BUS BALLOON. Rear tires are size 13:50x28—6 ply balloon, tractor tread. These tires, which are much larger than those to be found on any other make of tractor winch, enable this machine to successfully operate on road conditions impossible for any truck or other make of tractor.

★ The large capacity of front tires and forward position of front wheels enable this machine to carry the drum full of line, and a mast pole, with entire satisfaction.

WRITE FOR BULLETIN 116 FOR COMPLETE INFORMATION

●TRACTOR • • •

★ Modern, 6-cylinder, medium speed long-life, high powered engine with maximum flexibility.

★ Sleeve liner type, over-head valve, magneto ignition; full pressure lubrication through hollow crank shaft and rifle drilled connecting rods.

★ Road Speed—actually 15 M.P.H. at 22[illegible] R.P.M. of engine, or 19 M.P.H. at 2[illegible] R.P.M., maximum recommended. Check the motor R.P.M. of other tractors claiming higher speeds!

★ Tractor can be operated on gasoline, kerosene or arrange for natural gas operation, or special Diesel motor can be furnished if desired.

Manufactured by
WILSON MFG. CO.
Wichita Falls, Tex.

Wilson MANUFACTURING COMPANY

WILSON PORTABLE RIGS AND OIL FIELD WINCHES

Wilson Rigs and Winches Available through
BOVAIRD, FRICK-REID, MID-CONTINENT, OIL WELL OR REPUBLIC SUPPLY CO.'S

FIELD OPERATIONS

Summarizing the Week's Developments

Floods in the Central West district and continued cold weather in the northern Rocky Mountain area again affected the number of well completions last week, the total of new wells in the United States decreasing five from the number completed in the previous week.

The increase in crude prices in all areas excepting California and Eastern fields was the outstanding feature of the week as prices in the Mid-Continent were raised an average of 12 cents.

TEXAS

West Texas set another location record with 71 new locations reported; 471 tests now drilling in that area. Three tests for new production in Duval County attracted the attention of Southwest Texas operators, one showing indications of an important development.

On the Gulf Coast, the discovery of two gas reserves, one producing from a record depth of 12,216 feet in Vermilion Parish, extensions to three proven fields and discovery of a salt-dome structure in southeastern Louisiana were of outstanding importance.

The producing limits of the Dickinson field were extended by one of the best producers completed in the northern part of the field. The Lockridge field of Brazoria County recorded its third producer, being thereby extended one-half mile northeast. Interest at Turtle Bay was revived by the showing made by a test one-half mile north of production.

LOUISIANA-ARKANSAS

Arkansas developments were featured by showing of oil and gas in a Permian lime test at Snow Hill on the northeastern flank of Smackover. Rodessa passed the 100,000-bbl.-per-day mark last week and established an all-time peak.

On the Texas side of the Rodessa field, attention is centered upon the testing of a possible 14-mile extension from the Rodessa production.

KANSAS

One Stafford County wildcat opened a new oil pool, and another wildcat was showing as a probable pool opener. Wildcat pool openers were completed in Sumner, Chautauqua and Trego counties. The Bloomer pool of Barton County and Wellington pool of Sumner County were extended. Completion of another well in the Morrison area, Clark County, was imminent.

OKLAHOMA

A wildcat was completed as a producer in western Lincoln County. Nine oil wells were completed in the Fitts field, Pontotoc County, including six Hunton lime producers. A northeast extension well at Fitts was looking bad, with water in the hole, and an east extension well found saturated Hunton lime. The week's completions in Oklahoma included 27 oil wells and 6 gas wells.

MICHIGAN

Two recently opened fields, Clayton-Arenac and Sherman-Isabella, continued to command interest as several new 200-bbl. wells were completed and others neared completion.

CALIFORNIA

Drilling activities in the Wilmington district continue to increase from week to week while at El Segundo, the other recently discovered field, operations were slowed down due to restricted deliveries of natural gas.

Completions in All Fields

(Week Ending January 30, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
Penn. Grade Fields	9	11	1	21	238	202
Lima Field	3	0	0	3	9	8
Central Ohio	0	4	5	9	79	20
Indiana	2	0	1	3	20	19
Illinois	0	0	0	0	0	0
Michigan	5	3	4	12	70	41
Kentucky	1	0	0	1	17	20
Kansas	23	2	11	36	163	120
Oklahoma	27	6	10	43	207	217
North Central Texas	14	0	9	23	215	195
West Texas	42	0	2	44	189	107
Texas Panhandle	7	6	1	14	56	65
East Central Texas	2	0	0	2	53	21
East Texas	26	0	1	27	197	209
East Texas Border	10	0	0	10	48	0
Gulf Coast Texas	16	1	0	17	106	73
Southwest Texas	60	4	23	87	288	152
Total Texas	177	11	36	224	1,152	822
North Louisiana	6	3	2	11	37	43
Gulf Coast Louisiana	3	0	1	4	39	28
Total Louisiana	9	3	3	15	76	71
Arkansas	1	0	0	1	3	12
Montana	1	0	0	1	10	12
Wyoming	1	0	0	1	10	8
Colorado	0	0	0	0	2	3
New Mexico	7	0	3	10	68	31
Utah	0	0	0	0	0	1
California	13	0	12	25	117	102
Total United States	279	40	86	405	2,241	1,709
Total previous week	289	34	88	411		
Difference	10	6	2	6		

Outstanding Fields—Highlights

(Week Ending January 30, 1937)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	1	6	1	0	147	9,897
Hastings	5	5	2	899	134	8,769
Loma Novia	3	5	6	2,120	649	15,580
Seven Sisters	3	6	6	3,185	365	8,500
Saxet Heights	2	4	1	200	200	9,340
Saxet	8	34	4	600	336	24,300
Lopez	3	6	7	2,830	277	6,750
East Texas	28	86	26	1,054	22,051	452,350
Talco	16	25	3	613	182	15,457
OKLAHOMA						
Oklahoma City	3	21	0	0	1,090	139,175
Fitts	6	61	9	8,715	600	82,100
Burbank-So. Burbank	0	2	0	0	2,164	23,250
KANSAS						
Ellis County	3	18	2	2,236	77	3,305
Reno County	5	23	1	175	360	17,908
Russell County	9	47	5	6,082	566	22,315
Rice County	9	43	4	2,262	683	42,658
NEW MEXICO						
Lea County	13	87	7	1,437	2,001	78,850
LOUISIANA-TEXAS						
Rodessa, La.	5	10	5	3,462	344	65,310
Rodessa, Tex.	7	40	10	4,943	186	39,960
Gillis, La.	2	5	0	0	56	17,637
Tepetate, La.	1	3	1	152	41	5,437
MICHIGAN						
Porter-Yost	2	8	0	0	424	12,820
Crystal-Montcalm	6	8	1	100	147	3,010

Eastern Field Report

By STAFF CORRESPONDENT

GLENN ROBERTS TEST STILL CONTINUES SEARCH FOR GAS

PITTSBURGH, Pa., Feb. 1.—No gas has yet been struck in the deep test of Glenn W. Roberts and others on the Roberts Oil Co. (L. R. and J. A. Roberts farm) lease on the Burning Springs anticline in Burning Springs district, Wirt County, West Virginia. With the top of a brown sand at 4,906 feet, drilling was continued and at present the tools are at 4,937 feet and the sand has turned hard and white. The water in the sand above the lime break at 4,902-03 feet has about exhausted itself. Drilling is being continued.

The next outside deep test to reach the Oriskany sand will probably be that of Godfrey L. Cabot, Inc., on the T. F. Smith farm in Geary district, Roane County. The tools reached 5,669 feet and shut down cementing. This depth should be close to the Corniferous lime. In Center district, Calhoun County, this operator is down 4,000 feet in a deep test on the Allen Hardman farm. In Wirt County, the same operator is drilling at 3,901 feet on the Walter Hoffman farm in Burning Springs district.

Routine activity was retarded throughout the week by floods and it will be several weeks before the districts are cleaned up. Twenty-one operations were completed. They consisted of 1 dry hole, 11 gas wells, and 9 producers, with an initial production of only 43 bbls.

SOUTHEAST OHIO

Reports from Southeast Ohio, especially the Marietta district, have been delayed on account of high water. Much work has been suspended. Only three completions were recorded. In Knox County, the Ohio Fuel Gas Co. completed a test on the Sylvia Flack farm in section 17, Butler Township, in the Clinton sand at 3,146 feet. It is a gas well gauging 200,000 feet a day and it also had a small showing of oil.

In Licking County, in the NE quarter of section 23, Madison Township, George H. Long completed No. 7 on the Eliza J. Fulton farm in the Berea sand at 802 feet. It is showing for a 1-bbl. pumper.

In Monroe County N. T. Staudt and others completed a second test on the Chris Keevert farm in the NE quarter of section 5, Adams Township, in the Keener sand at 1,700 feet. It produced 6 bbls. the first day after a shot.

In Columbiana County the deep test of the Natural Gas Co. of West Virginia on the Albert Ketchum farm in section 28, Madison Township, and 1 mile north of the Margaret Jenkins gas well, is drilling and has reached 105 feet in the Corniferous lime.

In Poland Township, Mahoning County, the test of the Harold C. Phillips and others on the Richard and Bell Fenton farm, 1 mile north of Lowellsville, is drilling at 2,430 feet.

SOUTHWEST PENNSYLVANIA

Two gas wells were completed in southwest Pennsylvania during the week and one hole had to be abandoned. In Amwell Township, Washington County, the Union Gasoline & Oil Corp. completed No. 5 on the A. O. Vankirk farm at 2,089 feet as a gas well in the Big Injun sand which gauged initially 4,000,000 feet a day.

In Somerset Township, Washington County, the Mingo Oil & Gas Co. completed a test on the J. N. Adams farm as a gas well, total depth 1,575 feet. The Big Injun sand was at 1,492 feet with 1,876,000 feet of gas at 1,511 feet.

In Richhill Township, Greene County, the Manufacturers Light & Heat Co. drilled a test on the D. M. Archer farm to 1,931 feet and lost the tools and had to abandon the hole. The Pittsburgh Coal was at 695-702 feet.

In Peters Township, Washington County, the Carnegie Natural Gas Co. has made a location for a second test on the George Douglass farm. Here Henderson & Co. has spudded in the test on the Bell heirs farm and R. M. Duden and others have a rig up for a test on the John McDowell farm.

In South Strabane Township the Manufacturers Light & Heat Gas Co. is down 1,652 feet on the George Burig farm. The Keystone Gas Co. is drilling a test on the George Martin farm. In South Franklin Township, the Carnegie Natural Gas Co. has reached 2,200 feet on the Dickerson farm. A. V. Lewis and others has reached 2,796 feet on the Ivan Mankey farm.

In Amwell Township the Manufacturers Light & Heat Co. is drilling at 2,860 feet on the J. H. Weaver farm. The Fifty-Foot sand was at 2,670-2,716 feet, with a show of gas at 2,713 feet. Perrin & Co. is down 1,770 feet on the B. A. Bonham farm. The Penn Ohio Oil & Gas Co. has reached 900 feet on the J. A. Russell tract.

In Nottingham Township, Scott & Co. is drilling at 604 feet on the Crouch farm. In Somerset Township Victor Behm has reached 1,390 feet on the Hosack farm. In Morris Township the Carnegie Natural Gas Co. is drilling at 2,900 feet on the J. Q. Stockdale farm.

In Greene County the Penn Ohio Oil & Gas Co. continued drilling the test on the William L. Funk farm to 3,154 feet. The Gordon Stray sand was at 3,102-40 feet. The Gordon sand was reached at 3,152 feet. There was a show of oil in the bottom of the Nineveh Thirty-Foot sand at 3,047-50 feet. Also in Center Township the Carnegie Natural Gas Co. has reached 1,911 feet and is running 8¼-inch casing on the J. W. Milliken No. 2.

In Dunkard Township, Greene County, this company is drilling at 690 feet on the Ella B. Parker farm and has not recovered the tools from the Wade Brand test. In Wayne Township Myers, Hoskinson & Milliken are down 2,770 feet on the D. L. Headley test. In Richhill Township the Manufacturers Light & Heat Co. has reached 2,837 feet on the Samuel H. Smith farm and in Gilmore Township, 1,930 feet on the T. and J. Hoy farm.

Deep Tests

Progress continued in the deep test of William Snee and others on the Summit Hotel property on Chestnut Ridge in South Union Township, Fayette County. The present depth is 5,985 feet and the hole is not caving.

In Mount Pleasant Township, Washington County, the deep test of Norwood Johnston and others on the James McBurney farm remains shut down waiting on a new line.

In Beaver County the Wittmer-Laughner test on the William Wilsman farm, in Independence Township, made no progress, but a whipstock has been ordered to get the tools past the present obstruction. In South Beaver Township the test of A. J. Wise, Jr., and others on the Beaver Falls Airport Corp. will be spudded this week.

In Franklin Township, Butler County, the deep test of the American Natural Gas Co. and the T. W. Phillips Gas & Oil Co. is drilling at 2,450 feet on the Perry S. Davis farm.

WEST VIRGINIA

Several producers were completed in West Virginia during the week. In Clay County Carte & Koontz completed a test on the Charles F. Otto farm in Union district in the Injun sand as a 3-bbl. producer.

In Hancock County the R. J. Braden Co. completed No. 13 on the J. H. and A. Ward farm in Grant district in the Berea sand at 1,180 feet. It is a 1-bbl. pumper.

In Marshall County Guy B. and A. C. Patterson completed drilling down the No. 1 on the McClelland and Howard Brothers lease in Liberty district through the Fourth sand at 2,764 feet. It is now good for 5 bbls. a day and 350,000 feet of gas.

In Monongalia County Harry L. Tennant completed No. 6 on the Wise & Tennant lease in Battelle district at a total depth of 3,231 feet, the Gordon sand, as a 10-bbl. producer. The Pittsburgh Coal was at 1,012-19 feet with the Gordon sand at 3,216-20 feet.

In Pleasants County, Dinsmoor & Co. completed a test on the C. J. Higgins farm in McKim district in the Cow Run sand at 849 feet. It is good for 2 bbls. a day.

In Ritchie County, A. B. Moore completed No. 5 on the Winford D. Woods farm in Murphy district in the Maxon sand at 2,040 feet. It is showing for 10 bbls. a day.

In Wetzel County C. B. Lewis and others completed a test on the George Lemasters farm in Proctor district at a total depth of 3,465 feet as a 5-bbl. producer. The Pittsburgh Coal was at 1,293 feet; the Gordon sand 3,431-40 feet with the oil at 3,433-36 feet.

Gas Wells

In Calhoun County Ivy Gainer and others completed a second test on the Ivy Gainer farm in Center district at a total depth of 2,170 feet as a gas well. The Big Lime was at 1,872-1,996 feet; Big Injun 2,010-2,161 feet; gas gauging 252,000 feet naturally at 2,137-50 feet.

In Marion County the Hope Natural Gas Co. completed No. 7,738 on the Enoch R. Morgan farm as a gas well in the Big Injun sand. The Pittsburgh Coal was at 389-96 feet with the Big Injun gas gauging 225,000 feet a day. This test was in Lincoln district. In Paw Paw district Victor E. Tennant drilled a test on the Russell O. Lough farm to 2,933 feet. There was no Fifth, or Bayard, sand but there was about 134,000 feet of gas in the Injun sand at 1,780 feet.

In Monongalia County the Clovis Brothers drilled a test on the Ben Clovis farm in Battelle district through the Fifth sand at 3,430 feet. There was about 50,000 feet of gas in the Fourth sand. The Pittsburgh Coal was at 985-92 feet.

In Ritchie County B. F. Gilmore and others completed a test on the William F. Moore farm in Clay district in the Keener sand at 1,900 feet. It is a gas well gauging 475,000 feet a day. In this district the Dye Farm Oil & Gas Co. completed No. 2 on the George Dye farm in the Injun sand at 2,035 feet. It has a small volume of gas.

In Roane County C. S. Despard completed a test on the W. T. Roe farm in Smithfield district at 1,901 feet. The Big Lime was at 1,712-1,815 feet; Big Injun sand, 1,815-52 feet; 252,000 feet of gas at 1,827-37 feet.

In Wetzel County the Manufacturers Light & Heat Co. completed a second test on the S. A. Scritchfield farm in Church district at 3,105 feet. The Pittsburgh Coal was at 1,175 feet; Salt sand

(Continued on Page 63)

Kansas Developments

By DAL DALRYMPLE

NEW WILDCAT POOL OPENED; TWO STATE FIELDS EXTENDED

A new oil pool was opened in Stafford County, a Sumner County pool opener was completed, a new gas area was opened by a Chautauqua County wildcat, a Trego County wildcat was completed as a producer, and the Bloomer pool of Barton County and Wellington pool of Sumner County were extended and a big well was completed in Elk County to feature the week's field news in Kansas.

The Stafford County pool opener was Skelly Oil Co., Texas Co. and others No. 1 Kipp, SE SE NE section 27-25-14w, in the southwestern part of the county and 4 miles north of Byers, across the line in Pratt County. After being treated with acid, the wildcat flowed 1,265 bbls. of oil in 24 hours from Lansing lime, total depth 3,906 feet. The lime series was topped at 3,687 feet. The well was plugged back from Siliceous lime at 4,424-50 feet, total depth, where water intruded.

About 2½ miles northwest of the Kipp discovery, Empire Oil & Refining Co. and Atlantic Refining Co. No. 1 Jordan, SW SW NW section 15-25-14w, also showed as a Lansing lime pool opener but was drilling ahead in quest of Siliceous lime. Should it not find production in that formation, it will be plugged back to the Lansing. Top of the Lansing was 3,727 feet, where the well was acidized and produced 575 bbls. of oil in 24 hours, cutting about 30 per cent water.

The Bloomer pool was extended nearly one-half mile south at Magnolia Petroleum Co. No. 1 Mueller, NW NE section 1-18-11w. It was bottomed at 3,298 feet in Siliceous lime, after being deepened from first pay at 3,276-91 feet, where it produced at the rate of 1 bbl. an hour. It swabbed 63 bbls. of oil in four hours from Siliceous lime and was to be acidized. If it is completed as a producer it will open a large area to drilling on the south side of the Bloomer pool.

Extends Wellington

Vickers Petroleum Co. No. 1 Markley, SE SE SW section 32-31-1w, extended the Wellington pool of Sumner County about one-half mile west. It flowed 100 bbls. of oil in 1 hour and 10 minutes from Chat at 3,696 feet.

The Morrison pool of Clark again was in the spotlight as Olson Oil Co. prepared to test Viola lime at No. 2 Morrison, NW NE NE section 20-32-21w. It is a southeast offset to the discovery well, completed several weeks ago by the Olson company, and the only producer in the pool. The No. 2 Morrison was completed as a small gasser in Siliceous lime at 6,906 feet several years ago, and later was temporarily abandoned. When the Viola lime oil discovery was completed recently, the Olson company plugged back No. 2 Morrison to 5,300 feet, set whipstock and drilled new hole to the Viola, found at 6,398 feet. If it is completed as an oil producer, considerable development is due to follow, the play expected to extend south across the state line into Oklahoma.

Diller Oil & Gas Co. has a third producer in the pool recently opened in the Moline area, Elk County. It is the No. 2 Hull, NE cor. SE section 26-31-10, which was estimated good for 2,000 bbls. of oil naturally from Siliceous lime, total depth 2,283 feet. The Diller company, headed by David H. Morgan of Eureka, owns the entire Key pool, in which some shallower wells also have been completed, and has a block of 1,500 acres under lease. The three Siliceous lime wells have an estimated total potential of 5,500 bbls. daily, but are shut in to 50 bbls. daily in accordance with agreements with other operators in the general area.

The February allowable for Kansas will be 187,918 bbls. daily, the Corporation Commission announced. The Bureau of Mines recommendation was 165,600 bbls.

Estimated Daily Production

Estimated daily average production of Kansas for the week ending January 23, and for the preceding week, was as follows:

	Barrels	
	Jan. 30	Jan. 23
Oxford City	2,700	2,675
Burrton	14,625	14,725
Ritz Canton	6,150	6,150
Graber	3,175	2,775
Hollow-Nikkel	3,625	3,050
Voshell	2,800	2,800
Ellsworth County:		
Lorraine-South Lorraine	5,175	6,075
Other pools	1,285	1,285
Rice-Barton counties:		
Bloomer	1,850	2,700
Chase	9,250	10,100
Geneseo	2,125	2,150
Raymond	2,650	2,650
Silica	17,125	16,475
Keesling	2,400	2,100
Hauschild	3,650	3,350
Miscellaneous Rice	5,455	6,240
Miscellaneous Barton	4,455	4,784
Russell County:		
Fairport	2,425	2,455
Gorham-E. Gorham	5,445	5,610
Russell	1,695	2,845
Sullivan	2,455	4,265
Trapp	4,680	4,095
Miscellaneous Russell	5,615	4,910
Sedgwick County:		
Valley Center	1,290	1,310
Greenwich	1,280	1,295
Robbins	1,180	1,190
Miscellaneous Sedgwick	1,180	1,185
Ellis County	3,305	3,505
Kingman County	705	510
Stafford County	2,695	2,560
Greenwood County	9,500	9,650
Butler County	17,600	17,750
Other fields	24,080	25,056
Total Kansas	173,625	178,875

Rice County

Dick Sage and associates had the largest Rice County completion of the week at No. 1 Gossman, SW SW NW section 9-21-7w, Hauschild-Saxman district. It topped Conglomerate at 3,365 feet and was bottomed at 3,375 feet. It flowed 630 bbls. of oil in six hours and made potential of 2,388 bbls.

Garden-Haines Oil Co. No. 1 Theede, NE NE NW section 14-21-7w, flowed 120 bbls. of oil in the first 45 minutes, and later made potential of 752 bbls. of oil in 24 hours. Production was from Conglomerate at 3,366-97 feet, total depth.

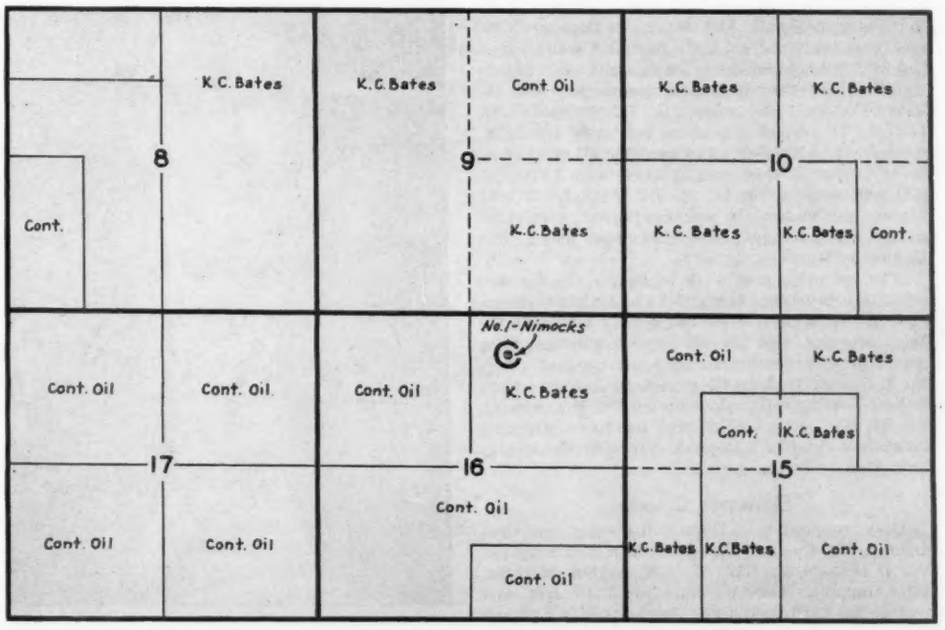
Empire Oil & Refining Co. No. 8 Janssen A, NW cor. section 3-18-8w, topped Siliceous lime at 3,246 feet, was completed at 3,252 feet, total depth and, after acidizing with 2,000 gallons, made daily potential of 1,325 bbls. of oil.

Same company's No. 2 Jones, NE NW NE section 17-20-9w, topped Siliceous lime at 3,274 feet; total depth, 3,288 feet; acidized with 2,000 gallons and pumped 187 bbls. of oil in 16 hours; reacidized with 2,000 gallons and pumped 181 bbls. of oil in 17 hours; treated a third time with 1,500 gallons of acid, pumped 275 bbls. of oil in 18 hours and made potential of 325 bbls.

Continental Oil Co. No. 1 S. Ainsworth A, SW SW NW section 30-18-7w, had Siliceous lime at 3,153 feet; was bottomed at 3,341 feet; plugged back to 3,174 feet and shot, but no oil was found and it was temporarily abandoned.

Dickey Oil Co. No. 1 Brothers, SE cor. section 1-21-7w, wildcat, failed to find oil and was dry and abandoned at 3,567 feet, total depth. It topped Kansas City lime at 3,083 feet; Conglomerate, 3,451 feet; had a hole full of water at 3,492 feet, and topped Chat at 3,488 feet.

First reports of new work in Rice County were as follows: Continental Oil Co. and others No. 1 Michekls, NE NE SW section 12-18-8w, wildcat, cellar; Shell Petroleum Corp. No. 1 Callis, NW NE SE section 16-19-9w, an old well, rigging up to deepen for a water disposal well; Republic Natural Gas Co. No. 7 Wendell, NE cor. section 32-19-10w, cellar; Union Oil & Refining Co. and



One of the more interesting Kansas wildcats is the K. C. Bates No. 1 Nimocks, in section 16-16-28w, Lane County, western part of the state.—(Mid-Continent Map Co., Wichita)

others No. 1 Baker, SW SW NE section 33-20-6w, wildcat, cellar; T. C. Johnson No. 1 Shubert, SW cor. section 9-20-10w, wildcat, location; L. E. Douglass No. 1 Coyne, NE SE SE section 24-21-8w, wildcat, moving in material.

Russell County

Three of five completions in Russell County were in Township 15-13w, the Trapp district. Largest producer was Phillips Petroleum Co. No. 2 Hoffman, NW NE SE section 31-15-13w. It topped Kansas City lime at 3,102 feet; had Siliceous lime at 3,344 feet and was bottomed at 3,349 feet. After acidizing with 4,000 gallons, it made potential of 2,540 bbls. of oil daily.

Shell Petroleum Corp. No. 5 Michaelis, SE SE NE section 31-15-13w, was acidized with 2,000 gallons, swabbed 435 bbls. of oil in 12 hours and later made potential of 2,013 bbls. It topped Siliceous lime at 3,312 feet; total depth, 3,317 feet.

Empire Oil & Refining Co. No. 1 Sellens, NE SW SW section 30-15-13w, topped Topeka lime at 2,734 feet; Kansas City, 3,044 feet; Siliceous lime, 3,272 feet; total depth, 3,276 feet; acidized with 4,000 gallons and made potential of 823 bbls. of oil.

Transwestern Oil Co. No. 2 Polcyn A, SE SW NE section 10-14-15w, made potential of 1,069 bbls. of oil from Gorham sand, topped at 3,269 feet; total depth, 3,272 feet.

Empire Oil & Refining Co. No. 12 Crawford, NW NW SW section 2-14-15w, topped anhydrite at 901 feet; Topeka lime, 2,759 feet; Kansas City lime, 3,043 feet; had pay at 3,049-59 feet, total depth, and made potential of 1,215 bbls. of oil. It was acidized with 2,000 gallons and made new potential of 1,996 bbls.

New work in Russell County: Skelly Oil Co. No. 1 Dumler, SE SW NE section 1-14-15w, running 12-inch casing at 474 feet; same operator's No. 3 Dumler, NW SW NE section 1-14-15w, moving in material; Empire Oil & Refining Co. No. 13 Crawford, SW NE SW section 2-14-15w, building rig; Shields and others No. 1 Gross, NW NW SE section 5-15-13w, wildcat, location; Carter Oil Co. No. 2 Detrich, SE SW SW section 8-15-13w, location; Coralena Oil Co. No. 1-A Sellens, SW SE SW section 20-15-13w, location; Sinclair Prairie Oil Co. No. 2 K. Sellens, SE SW SW section 25-15-13w, location; same company's No. 5 Hefferman, SE NW NE section 26-15-13w, location; Shell Petroleum Corp. No. 7 Michaelis, SE SW NE section 31-15-13w, moving in material; W. I. Southern, Inc. No. 4 Boomhower, SE SE NW section 31-15-13w, location; same operator's No. 2 Neidens, SE NW NE section 32-15-13w, location.

Barton County

Largest of two producers completed in Barton County was Lario Oil & Gas Co. and Atlantic Refining Co. No. 4 Peter, NW section 24-20-11w, in the Peter pool. It had Siliceous lime at 3,255 feet, was bottomed at 3,261 feet and made potential of 3,019 bbls. of oil in 24 hours.

The other Barton County completion was the Texas Co. No. 1 Peterman, NE NE SE section 13-17-11w. It topped Siliceous lime at 3,287 feet; total depth, 3,325 feet; and swabbed 90 bbls. of oil in 24 hours. It then was acidized with 1,000 gallons and made potential of 267 bbls. of oil, with 3 per cent water. It was reacidized with 3,000 gallons and made potential of 261 bbls. of oil, with 13 bbls. of water.

The following new work in Barton County was reported: Sinclair Prairie Oil Co. No. 2 Davidson, NW SE SE section 4-16-11w, cellar; Ohio Oil Co. No. 1 Kramer, SW SW SE section 9-16-13w, moving in material; Schermerhorn Oil Co. and others No. 1 Haas, NW NW SE section 30-18-15w, cellar; Indian Territory Illuminating Oil Co. No. 2 Peter, NE SE NW section 24-20-11w, location; Magnolia Petroleum Co. No. 3 Roetzel, NW SW NE section 24-20-11w, location.

Ellsworth County

Only completion in Ellsworth County was Continental Oil Co. and Empire Oil & Refining Co. No. 7 Janssen B, NW SE SW section 34-17-8w. After topping Siliceous lime at 3,216 feet and drilling to 3,256 feet, total depth, it was acidized with 4,000 gallons and made potential of 241 bbls. of oil. It was retreated with 5,000 gallons of acid and made potential of 329 bbls. of oil.

The only new work reported in Ellsworth County was at Continental Oil Co. and others No. 1 Holmes, SE cor. section 33-17-8w, a location.

Ellis County

A good producer was completed in the Bemis pool of northern Ellis County at British American Oil Producing Co. No. 2 Bemis, SW NW SW section 22-11-17w. It was bottomed at 3,442 feet and made potential of 1,560 bbls. of oil in 24 hours, naturally. Top of Kansas City lime was 3,240 feet; Simpson horizon, 3,430 feet; Siliceous lime, 3,440 feet.

Champlin Refining Co. No. 1 Meir, NE NE SW section 36-11-18w, topped anhydrite at 1,335 feet; Simpson, 3,611 feet; Siliceous lime, 3,625 feet, total depth, and made potential of 676 bbls. of oil.

Jones Brothers and others No. 1 Phillip, SE SE NW section 9-15-17w, wildcat east of the Ruder district and south of the Victoria pool, had a hole full of water at 3,545-48 feet, total depth, and was abandoned. It topped anhydrite at 1,101 feet; Topeka, 2,921 feet; Kansas City, 3,245 feet; Conglomerate, 3,472 feet; Siliceous lime, 3,532 feet, and had a slight showing of oil at 3,532-38 feet.

Kewanee Oil & Gas Co. No. 1 John Ruder, SW SE SW section 23-15-18w, topped Siliceous lime at 3,610 feet, but was dry and abandoned when cores at 3,616-25 feet, total depth, had a sulfur odor.

Two new operations were reported in Ellis County; Empire Oil & Refining Co. No. 4 Bemis, SE cor. section 21-11-17w, was a location. British American Oil Producing Co. No. 4 Bemis, SW cor. section 22-11-17w, was building rotary rig.

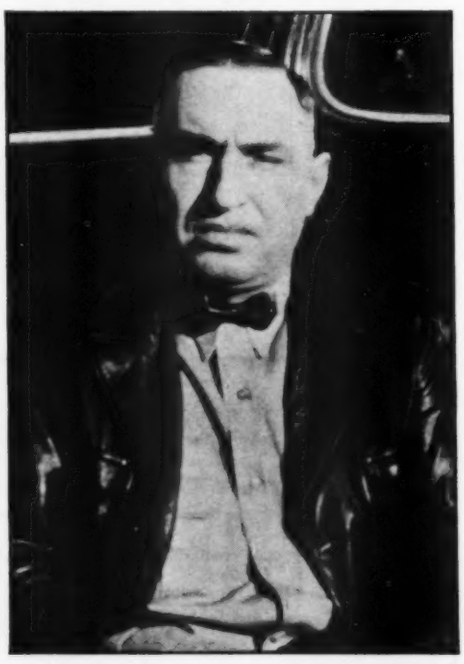
Rooks County

Superior Oil Co. and others No. 2 Johnson A, NE SW SE section 26-10-19w, in the Zurich area, was the only Rooks County completion. It topped Topeka lime at 3,020 feet; Kansas City lime, 3,216 feet, and was bottomed at 3,337 feet. After acid treatment, it made potential of 262 bbls. of oil.

Reno County

Olson Drilling Co. and Shell Petroleum Corp. No. 4 Fast, C W half E half section 25-23-4w, Burrton field, Reno County, was acidized with 1,000 gallons and made potential of 175 bbls. of oil. It topped Chat at 3,260 feet and was completed in pay at 3,356-77 feet, total depth.

W. E. Witt and others No. 1 Wright, SE NE NE section 9-23-8w, wildcat, northwest of the Abbyville pool and southwest of the Hauschild area of southern Rice County, was dry and abandoned in Siliceous lime at 4,040-90 feet, total depth. It topped Topeka lime at 2,660 feet; Kansas City, 3,170 feet; Chat, 3,636 feet; based Mississippi at 3,688 feet; topped Viola lime at 3,9[illegible] feet, and Wilcox sand at 3,964 feet.



Production Foreman George W. Heape, of Pure Oil Co., who has been in charge of the company's wildcat activity in Kansas

New work in Reno County: Sinclair Prairie Oil Co. No. 7 Seedle, NW SE NE section 17-24-4w, rotary rig; same company's No. 1 Kaufman, SW SW SE section 18-24-4w, rotary rig; Shell Petroleum Corp. No. 5 Whipple, NW NW NE section 15-26-9w, cellar.

Trego County

York State Oil Corp. No. 1 Gugler, SW cor. section 36-12-21w, wildcat in eastern Trego County, northeast of the Riga pool and northwest of the town of Ellis, in Ellis County, was completed as a pool opener. It topped Topeka lime at 3,120 feet; Oswald lime, 3,405 feet; Siliceous lime, 3,830 feet; had pay at 3,837-39 feet, total depth; plugged back to 3,838 feet, acidized with 1,000 gallons and pumped 125 bbls. of oil and 104 bbls. of water in 24 hours. Later, it pumped 288 bbls. of oil and 170 bbls. of water in 19 hours, completed.

Harvey County

Saco and other No. 1 Guthrie, NE NE NW section 8-22-2e, wildcat in northeastern Harvey County, was dry and abandoned at 3,485 feet, total depth. It topped Lansing lime at 2,187 feet; had a hole full of water at 2,340-50 feet; topped Chat at 2,843 feet; based lime at 3,060 feet; topped Hunton lime 3,175 feet; Viola lime 3,270 feet; Wilcox sand 3,215 feet; Siliceous lime, 3,388 feet.

A new location was reported in Harvey County at Shaffer and others No. 2 Haury, C SE SE section 11-23-2w, Warkentine pool.

Stafford County

Two wildcats in Stafford County failed to find oil and were dry and abandoned. C. E. Skiles and others No. 1 Hughes, SW cor. section 12-23-12w, wildcat south of the Richardson pool, topped Kansas City lime at 3,360 feet; Viola lime, 3,690 feet; Simpson, 3770 feet; Siliceous lime, 3,828 feet, and water intruded at 3,848 feet, total depth.

Stanolind Oil & Gas Co. No. 1 J. C. Rosacker, SW SW NE section 5-25-11w, wildcat in the southeastern part of the county, topped Kansas City at 3,485 feet; Viola lime, 3,913 feet; Simpson, 4,058 feet; Siliceous lime, 4,110-47 feet, total depth, with water showing in cores.

New work in Stafford County: Stanolind Oil & Gas Co. No. 4 Komarek, SW SW SE section 30-22-11w, moving in material; same operator's No. 6 Heyen B, NW NW NE section 31-22-11w, building rotary rig.

Sumner County

A wildcat pool opener was completed in Sumner County at Rose Spring Drilling Co. and others No. 1-A Rutter, C NW NW section 21-33-2e. It topped Chat at 3,215 feet and had pay at 3,225-38 feet, total depth. It made potential of 128 bbls. of 40.5 gravity oil. It was plugged back to 3,233 feet, flowed 127 bbls. of oil and 25 bbls. of water in 24 hours and was completed.

The Texas Co. No. 2 McKee, NW NE NE section 5-32-1w, topped Chat at 3,633 feet and was completed at 3,682 feet, total depth. It was acidized with 3,000 gallons and made potential of 1,000 bbls. of oil.

First reports of new work in Sumner County were as follows: Stelbar Oil Co. No. 5 Frankum, SW SE NE section 32-31-1w, rigging up rotary; Shell Petroleum Corp. No. 1 Nebitt, NE NE SW section 14-32-2e, an old well, cleaning out to deepen; Continental Oil Co. No. 3 Rothrock, C E half W half NW section 4-32-1w, rotary rig; Stelbar Oil Corp. No. 2 Rothrock, C W half E half NW section 4-32-1w, building rotary rig; same operator's No. 3 Rothrock, NE NE NW section 4-32-1w, cellar; Texas Co. No. 3 Carr, NE NW NE section 4-32-1w, location.

Butler County

Roth & Faurot and others No. 1-A King, C NE SW section 17-24-4e, Butler County, had pay at 2,250-51 feet; total depth, 2,265 feet, and pumped 24 bbls. of oil in 24 hours. It was acidized with 1,000 gallons and made potential of 170 bbls. of oil, completed.

Ralph Wixson and others No. 1 Coulter, NW SW NE section 3-27-7e, wildcat, had Kansas City

(Continued on Page 76)

Southwest Texas District

THREE DUVAL COUNTY TESTS ATTRACTING WIDE INTEREST

By GEORGE WEBER

HOUSTON, Tex., Feb. 1.—Three tests for new production in Duval County attracted the interest of Southwest Texas operators during the past week. One showed indications of becoming an important development. Another appears to be a failure, and the third may extend a small field. Elsewhere in the Laredo district the Excobas field of Zapata was extended, and activity showed an increase with new locations exceeding completions.

Highlights of the Lower Coastal area were the newly discovered field of Nueces County and developments in the Saxet field of the same county. A large number of wildcat locations have been staked in the past two weeks, indicating a record number of exploration tests to be drilled in Southwest Texas.

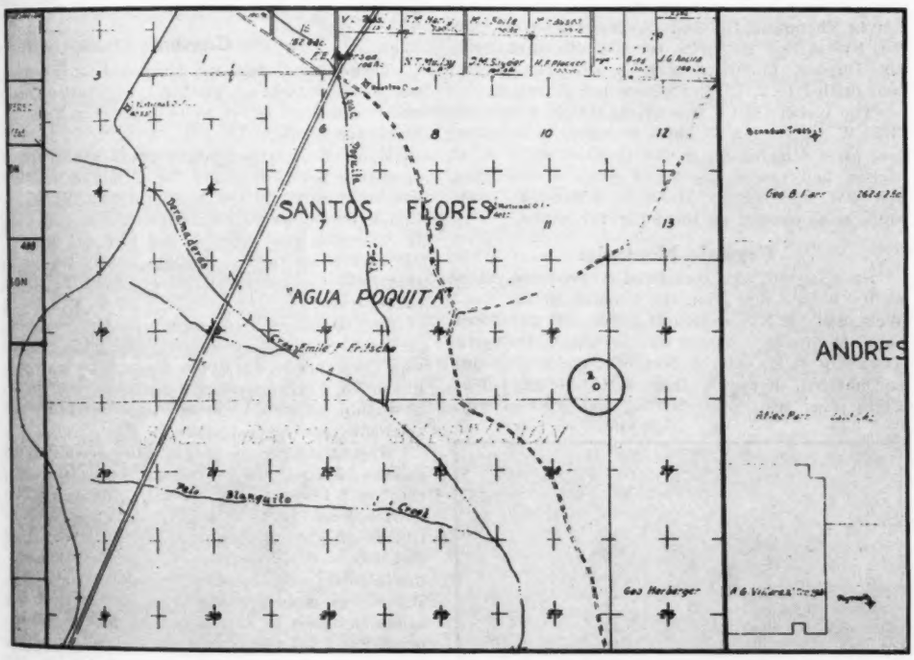
The Fault Line zone was featured by completion of the new Edwards well in the Pearsall field of Frio County, and by a considerable influx of operations to the Branyon area of Caldwell County, where recently a large producer was completed.

The Valley area is coming in for its share of attention with probable extension of the La Blanca field of Hidalgo County and the starting of new deep wildcats.

In southeast Duval County what appears to be an important discovery is in process of further testing. The Hiawatha Oil & Gas Co. No. 1 Southland Life Insurance Co., about 6 miles south of the town of Benavides, last week tested 660 feet of pipe-line oil with some gas in sand at 5,845-67 feet. The test, taken from 5,843-67 feet showed a working pressure of 30 pounds. Casing has been set at the total depth of the hole, 5,867 feet and a production test will follow.

The wildcat is on a prospect developed by the McCollum Exploration Co., and is the third test to be drilled in the area. Success of this wildcat will open production in a new deep horizon. It may mark the opening of development of deep geophysical structures which heretofore have been relatively untouched in the Laredo district and where production has been developed in the more shallow shoreline deposits.

In the northeast section of the county, due east of the Seven Sisters field, the Magnolia Petroleum Co. No. 2 Labbe Ranch showed disappointing results. The test, which recovered 270 feet of pipe-line oil on a drillstem test of the Loma Novia sand at 2,904-10 feet later tested salt water on a production test. The hole was cored for 5 feet further, and another test is to be made. The oil on the drillstem test was the first show of production in the gas field. The test itself, an outpost located nearly a mile to the north of gas production, indicates the presence of oil in the area, 3 miles east of undefined Loma Novia sand production in the Seven Sisters field.



A new deep oil field in Duval County is indicated from showings in the Hiawatha Oil Co. No. 1 Southland Life Insurance Co. The wildcat tested 660 feet of oil at 5,843-67 feet, and was washing in. It will be an important discovery in the Laredo district, if a producer.—(Porter Regenold, Maps, Corpus Christi)

In the vicinity of the Charamousca field of northwestern Duval County, N. V. Duncan No. 3 Worden-Drought has showed 500 feet of oil on a 10-minute drillstem test made at 1,527-33 feet. The No. 3 is in the same survey with the Sun Oil Co. and Simms No. 2 Worden-Drought, which was completed at 1,581 feet in September, 1935, for the discovery well of Charamousca. The Duncan test if completed will extend production in the one-well field.

Zapata County has seen constantly increasing activity in the past several months, and drilling in the shallow Haynes and Escobas fields has added a number of producers to the area. During the past week the completion of the Allison No. 1 Bustamente in the Fansler partition of the Comitas grant extended production in the field three-eighths of a mile to the northeast. The new well made an initial of about 30 bbls. a day, less than the average production of wells in the field. Producing sand was cored at 1,144-51 feet.

Lopez Limits Extended

The producing limits of the Lopez field continue to extend further to the north and east into Duval County, as drilling moves into sections 901 and 902. Humble Oil and Refining Co. completed No. 5C Duval County Ranch Co. in section 901 for a large oiler, and Magnolia Petroleum Co. has moved a rig into section 902 and is drilling due west of the Humble lease.

In the Colmena area of Duval County J. E. Thomas No. 1 Duval Ranch cored sand with a gas odor at 1,326-70 feet which tested dry after a test at 1,326-68 feet had tested dry gas. The test, southwest of the field, is coring ahead.

In Duval County Humble Oil and Refining Co. is drilling No. 1 Arnstine in the Sarnosa field, section 130.

The new producing field of Nueces County opened last week by the Wellington Oil Co. No. 1 Stockton was given the name London, by the San Antonio Geological Society Nomenclature Committee. Already two locations have been staked for tests in the new field, and others are expected to be announced shortly. Cosner & Cosner, who started the discovery well of the field, will drill Nos. 1 and 2 Stockton, the former location being a southwest diagonal offset to the discovery well. About 9,000 feet to the southeast of the London field, Allen and the Seaboard Oil Corp. are drilling below 1,300 feet on No. 2 Chapman, a wildcat which will be watched with interest as it approaches critical depths.

The Wellington No. 1 Stockton made an official gauge of 52 bbls. in 5 hours on a three-eighths inch choke, and an allowable of 100 bbls. a day has been given the field. From the number of companies which hold leases in the immediate vicinity of the well, a spirited development of the area is expected.

The Saxet field, in the same county, was not extended southward as had been expected. Bryant & Howell No. 1-A Kocurek, which was making oil through perforations at 4,118-23 feet last week, was being swabbed at the latest report, as the flow, consisting of 40 to 50 per cent salt water, ceased.

Another deep producer in Saxet is expected of the Morgan and others No 5 Rand Morgan, in the northeast quarter of section 405. The test recovered 14 fourbles of oil at 6,730-91 feet in 15 minutes with a working pressure of 15 pounds, and was coring deeper at latest reports. Meanwhile 5 other tests in the field are coring for or setting on the 6,700-foot sand, and two wells are on the 6,300-foot sand, one cleaning into pits and the other standing with casing set. The 5,800-foot Frio and the 4,800-, 4,400- and 4,500-foot Clarkwood sands of the same field are also getting some development.

Old Stratton Gas Field

Drilling will begin shortly in the old Stratton gas field in the southwest corner of Nueces County, as the Camp Production Co. begins No. 1 Ward-

(Continued on Page 79)

Michigan Field Report

TWO NEW FIELDS IN RACE TO REGISTER NEW COMPLETIONS

By
PAUL A. ELLIOTT

MUSKEGON, Mich., Feb. 1.—Two newly opened fields in Michigan, the Clayton-Arenac and the Sherman-Isabella, were running a neck-and-neck race for new completions in the past week. The Clayton-Arenac held a substantial margin not only in completions but also in near completions and number of drilling projects as the first month of the new year closed.

One new completion, with an estimated output of 200 bbls., was recorded in Clayton Township, Arenac County, while another test, previously drilled into the Dundee pay sands for natural production of 900 bbls. daily, was increased to about 1,000 bbls. by acid treatment.

The new producer was the James E. Duffy No. 1 Keef, SW SE SW section 3-20n-4e, which topped the Dundee pay sands 152 feet in the lime, encountered about 15 feet of pay and completed drilling 172 feet in with a flow of about 200 bbls. daily. This may be increased by acidizing. The well is three sites west of the McClanahan No. 1 Seignious, the discovery well in this new field, northeast of the bulk of central Michigan production.

The Weber Oil Co. boosted the daily output of the No. 1 Helein, SW SE SE section 3, same township, to more than 1,000 bbls. by acid treatment compared with an original estimate of 900, naturally, from the Dundee.

Three other Clayton Township tests were expected to be completed this week, as all recorded shows in the Dundee as they were drilling in. The McClanahan No. 2 Buffalo Land Co., NW NE NW section 10, about 40 feet in; Gordon Oil Co. No. 1 Crandall, NE NE SE, same section, at 130 feet in, and Charles E. Weller No. 1 Crandall, NW SW NE, also in section 10, at about 165 feet in. The Gordon company also cased the No. 1 Mutch, NW SE NW section 11, at 2,372 feet, ready to drill in this week, and the T. F. Caldwell, Inc., No. 1 Peavy, NW SW NE section 9, same township, was nearing Dundee completion. Twenty tests were active in the field.

Sherman—Isabella

Pure Oil Co. had an estimated natural initial of 100 bbls. daily in the No. 1 Beutler, SE NW NE section 33-15n-6w, Sherman Township, Isabella County at 3,612 feet. Two others of 13 active tests were nearing Dundee completion: Charles Strange No. 1 State, SW SE SE section 34, and Maynard L. Smith, Trustee, No. 1 Hicks Estate, SW SW NW section 35, both in Sherman-Isabella. Failure was feared in the Turner Oil Corp. No. 1 Merrihew, SE SE NW section 28, which was reported low on structure.

An analysis of the crude produced from the discovery well in this new field, brought in by the Pure Oil Co. a short distance north of the Broomfield-Sherman Township gas field, revealed it similar to the output of the Rodessa field in Louisiana, of paraffin base carrying a content of 40 per cent gasoline and naphtha and 20 per cent of kerosene distillate.

The field now has four producers ranging from 200 to 650 bbls. daily after acid and 13 drilling.

Vernon—Isabella

Renewed activity in Vernon Township, Isabella County, also resulted in the discovery of an estimated flow of 100 bbls. a day in the Nollem Oil & Gas Co. No. 5 Thayer test, SE SE SE section 22-16n-4w.

T. F. Caldwell, Inc., had cased the No. 1 Regan & Mahar, NW NW NW section 36, Vernon Township, at 3,675 feet and was expected to drill in this week. Chartiers Oil Co. also was 60 feet in the Dundee in the No. 1 Earl Wilson Estate, N half NE NE section 7, same township, nearing completion.

The Chartiers Co. also had drilled to more than 4,000 feet in the No. 1 Gorr, SE NE SW section 6, same township, with little prospects of success. The same company simultaneously was planning to plug the No. 1 Earl Wilson, N half NE NE section 7, same township, back from water at 4,005 feet to a show of oil at 3,998 feet to give it an acid treatment before possible abandonment.

Eight tests were active in Vernon Township.

Ogemaw County

Second largest completion of the week was recorded in the West Branch Township section of the Ogemaw field, where the Ogo Oil Co. and David Thompson finished the No. 1 J. Weir, NW NE SW section 19-22n-2e, for 134 bbls. initially in the Dundee. Limestone was topped at 2,594 feet and drilled to 2,773 feet before being treated.

The Weber Oil Co. was giving its No. 1 Perkins, SE SW NE section 35, same township, a swabbing test after striking oil in the Dundee, while H. C. Nelson had placed his No. 4 State of Michigan, SW SW SW section 31-22n-3e, Churchill Township, same county, on the pump for a test.

Crystal—Montcalm

Swanson Oil Co. completed a producer, rated at 100 bbls. a day from the Dundee, in the No. 7 West, SW NE NW section 11-10n-5e, Crystal Township, Montcalm County, in the original Crystal Township field. Only 1 foot of Dundee pay was encountered, however, from 3,218 to 3,219 feet. Eight other tests were drilling and six rigs were moving in despite the gradual decline in crude output.

Turner MacKay No. 1 in Clayton Township, Arenac County, Michigan, being drilled to the Dundee sand

Dry Holes

Four wildcat tests were dry in as many counties. Hogan, Inc., and Wright, a test 18 miles north of the Arenac County field, was dry in the Dundee in the No. 1 Sobieray, SW NW NE section 12-17n-4e, Pinconning Township, Bay County. C. W. Teater was about to abandon the No. 1 Inda, SE SE SW section 32-18n-13e, Dwight Township, Huron County.

M. J. Ingold was reported to have failed in the Dundee in the No. 1 Donley, NE NE NE section 31-22n-8w, Lake Township, Missaukee County, while M. Bliss Keeler was ready to give up in the No. 1 Beall, C NE NW section 24-18n-9w, Cedar Township, Osceola County, after striking water between 4,036 and 4,042 feet, though there was a possibility of a break in the casing admitting Traverse water.

Gassers

Three gas wells were completed in two fields, one a 17,000,000-foot producer in Gratiot County and two smaller Berea wells in Ravenna Township, Muskegon County.

Hyatt & Norton brought in 17,000,000 feet of open flow before reaching the bottom of the Michigan stray sands in the No. 1 Cooley, SW SW section 3-10n-4w, New Haven Township, Gratiot County. The well was cased at 922 feet and drilled to 943 feet when the heavy flow, nearly the best in this field east of the Crystal oil field, had been encountered.

Two Dundee oil tests were nearing completion in Sumner Township, same county, while the Ellis Gas Corp. had cased above the shallow gas sands in the No. 1 Kish, C SE SW section 19-9n-1w, Ellis Township, where several small gas wells have been producing for several years.

West Michigan Consumers Co. completed two gassers in Ravenna Township, Muskegon County, the No. 1 Ferenczi and others, C SE section 7-9n-14w, making 750,000 feet daily after a sand-tamped time-bomb shot of 28 quarts, and the No. 1 Eason and others, C NW section 17, same township, making 680,000 feet daily after a similar 20-quart shot. Berea was topped in the first at 1,181 feet. Pay sands extended to 1,190 feet, and drilling was suspended at 1,197 feet. In the Eason and others well, Berea was first encountered at 1,184 feet, pay from 1,190 to 1,196 feet and the hole bottomed at 1,206 feet. Another test was expected to be completed over the week-end, the No. 1 Klise, C NE section 12-9n-15w, Sullivan Township.

Wildcats

The Wittmer Co. drilled through a 600,000-foot show of gas in the Michigan Stray sands in the No. 1 Musgrave Sales Co. test, C SW SW section 3-18n-5w, Lincoln Township, Clare County, but drillers were on the way to test deeper oil sands.

Gladwin—Beaverton

Two tests in the Beaverton Township section of Gladwin County also were discouraging last week, though not yet definitely abandoned. H. J. Bell had drilled more than 115 feet in the Dundee without success in the No. 1 Killian, SW SE SW section 25-17n-2w, Beaverton, while Archie M. Henry reached 3,900 feet, which is lower than other wells in the area, without a show in the No. 1 Little, NE NE SE section 36, same township.

(Continued on Page 79)

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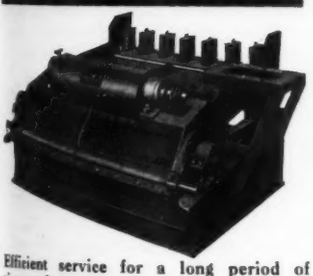

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H. J. DeArman opened a new distillate field at the Sandy Point Prospect in Brazoria County by completion of C. B. Bunte and others No. 1 Fite, which is now flowing gas and distillate through perforated casing made in the Marginulina sand at 6,489-6,501 feet. It is flowing through an eighth-inch choke with working pressure 2,300 pounds and casing pressure 2,500 pounds. C. B. Bunte, DeArman and Stanolind Oil and Gas Co. are the principal acreage holders. In Liberty County surface casing has been cemented on Kenco Oil Co. No. 1 E. B. Pickett located near the town of Devers.

Loffland Bros.' first production test on Continental Oil Co. No. 1 O. C. Hebert at the Abbeville Prospect in Vermilion Parish, the second deepest test in the world, bottomed at a depth of 12,216 feet, resulted in a dry gasser, which recorded a maximum pressure of 3,630 pounds shut-in casing pressure. The excessive pressure froze up the separator and flow lines in 15 or 20 minutes, resulting in the well being shut in, and when it was opened again the tubing and casing were found to be clogged up. The well has been killed and the tubing and casing are being cleaned out. After a full string of 5-inch casing has been cemented at 11,795 feet the plug was drilled with special 2½-inch drillstem tubing, which was raised 60 feet. No liner was used in the well and it may be necessary to run a short string before a satisfactory test can be made of the sand section that previously has shown oil and gas. Four other strings of tools are in Matagorda County, Jefferson Davis and Acadia parishes for the Continental Oil Co. and at the Charenton field for the Pan American Production Co.

Nicklos Drilling Co. recently purchased a heavy-duty type of rig and it has been moved to the Valentine field in Lafourche Parish for Pan American Production Co. No. 3 Harang. Ten-inch surface casing has been cemented at 1,446 feet on the company's No. 2 Harang. At Port Barre, for the same company No. 3 Cormier is below 5,400 feet, while at the Tepetate field for the Continental Oil Co. No. 9-A Homeseekers Development Co. is being completed and No. 11-A is nearing the 8,300-foot sand.

Smith & McDannald received a contract from the South Gulf Oil Co. to drill No. 1 Gann at the Hastings field. At South Houston No. 1 Kelly was completed for an oiler for Stanolind Oil and Gas Co. and the rig is being moved over for No. 2. Continued rain along the Gulf Coast has retarded progress of the East Hayes Prospect in Jefferson Parish, where a heavy type of rig is scheduled to be moved in for a deep test for Stanolind Oil and Gas Co. Seven other rotaries are located at Louise, for Pure Oil Co.; Conroe, for the Houston Oil Co., Sorrento, for the Pan American Production Co.; Jennings, for Shell Petroleum Corp.; Lafayette Parish, for the Shell Petroleum Corp.; Matagorda County, for Mayo and others, and at Long Lake for Tide Water Oil Co.

Cron & Gracey are preparing to complete Shell Petroleum Corp. No. 1 Maco Stewart at the Hitchcock Prospect in Galveston County and another location is to be made in the near future. At Flour Bluff, No. 5 Phillips has been completed for the Humble Oil and Refining Co. and the rig is being moved to another location. One rotary is in the West Columbia field for the Texas Co. where a production test is being made at No. 1 Hogg while at Aransas County, for the Barnsdall Oil Co., and at the Roanoke field, for Shell Petroleum Corp., drilling continues.

As soon as weather conditions permit Edwards Drilling Co. will move two rigs to the Cotton Lake field for the Kirby Petroleum Co. and in Wharton County for Sam Harrson and others.

Of the 26 locations made along the Texas Coast the past week, three were wildcats in Brazoria and Harris counties. At the Peach Point Prospect in Brazoria County Pure Oil Co. is to drill No. 1 Slade, while in Harrison County R. W. Ford and others and H. M. Harrel and others have made location for No. 1 Pruitt and No. 1 F. N. Bullock respectively. Proven fields showing new activity included Raccon Bend, by the Humble Oil and Refining Co.; Anahuac by Humble Oil and Refining Co. and Navarro Oil Co.; Hastings, by Gem Oil and Navarro Oil companies; Manvel, by Burton Drilling Co.; Heyser, by Humble Oil and Refining Co.; Dickinson, by Humble Oil and Refining Co.; Hardin, by Humble; South Houston, by Stanolind Oil and Gas Co.; Tomball, by Texas Co.; Amelia, by Humble; Esperson by General Crude; Hull, by Republic Production Co.; Placedo, by Sun Oil Co. and Sour Lake by Texas Co.

New drilling activity was assured the Turtle Bay field in Chambers County and the Dickinson field in Galveston County as a result of the showings of two outpost wells. At Dickinson Diadem Oil Co. No. 1 Way extended the producing limits approximately 3,800 feet northwest when it flowed 470 bbls. of pipe-line oil a day through a quarter-inch choke from a depth of 8,099 feet, while at Turtle Bay, Sun Oil Co. No. 1 White, drilled by Noble Drilling Co., has apparently extended production a half mile north following a drillstem test which showed oil and gas. A production test is scheduled to be made this week.

For Flood Relief

CHICAGO.—Standard Oil Co. of Indiana has donated $10,000 to the American Red Cross for flood relief. Half was given to the Chicago flood relief fund and half to the flood relief fund in Evansville, Ind., which directs relief for southern Indiana and Illinois. Headed by R. A. Miller, Evansville division manager, most of the employes of the Evansville division are engaged in flood relief work.

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Texas and Louisiana Gulf

By
F. L. SINGLETON

TWO GAS RESERVES OPENED AND THREE FIELDS WIDENED

HOUSTON, Tex., Feb. 1.—Discovery of two gas reserves, one producing from a record depth of 12,216 feet at the Abbeville Prospect in Vermilion Parish in Coastal Louisiana, extensions to three proven fields, and discovery of a salt-dome structure in southeastern Louisiana were developments along the Gulf Coast district the past week.

The Sandy Point Prospect, western Brazoria County, was opened as a wet gas field by completion of C. B. Bunte and others No. 1 J. W. Fite, situated in the D. Talley Survey, which flowed gas and an unestimated quantity of distillate through an eighth-inch choke, with tubing pressure 2,300 pounds and casing pressure 2,500 pounds. The hole is bottomed at 7,013 feet and a production test was made through perforated casing in the Marginulina sand at 6,489-6,501 feet, after a string of 5-inch casing had been cemented at 6,627 feet. The prospect has been looked upon favorably for years and interesting wells have been drilled in the vicinity. Considerable trading has been done in the area, and with the well showing distillate, indicative of an edge well, additional development can be expected. Principal acreage holders other than the operators are Stanolind Oil & Gas Co. and Sun Oil Co.

The first production test made of the second deepest well in the world at the Abbeville Prospect in Vermilion Parish, Coastal Louisiana, resulted in an estimated gas volume of 5,000,000 feet of dry gas per day with a maximum pressure of 3,950 pounds, and the well has been killed preparatory to cleaning out sanded tubing and casing found after the well had been shut in because of the separator and flow lines freezing up as a result of excessive pressures. The well, drilled by the Continental Oil Co. and Gulf Oil Corp. on the O. C. Hebert lease southwest of the town of Abbeville in section 20-12s-3e, reached a depth of 12,216 feet. A full string of 5-inch casing, with a float-shoe and full-hole cementer, was cemented at 11,795 feet. The cement was drilled out with special 2½-inch drill stem tubing and bit starting at 11,735 feet. Owing to the fact that there was approximately 481 feet of unprotected hole when the test was made, the operators probably will pull the tubing and run a short string of liner before making another test.

Another Salt-Dome Structure

The Marchland Prospect, in the extreme southern part of Lafourche Parish, was added to the list of known salt-dome structures in that district by William Helis No. 1 City of New Orleans, which topped salt at 7,463 feet and is bottomed in salt at 7,465 feet, at which depth an electrical coring test is being made. Sand and sandy shale, with thin streaks of sand showing oil and good odor, were cored around 7,400 feet, which increases the possibilities of production considerably. The well is in section 19-23s-23e. Gulf Refining Co. worked this area with geophysical instruments in 1928 and abandoned its No. 1 City of New Orleans, north of the present well, at 6,388 feet.

The producing limits of the Dickinson field, Galveston County, were extended by one of the best producers completed in the northern part of the field. It is Diadem Oil Co. No. 1 Way, approximately a mile northeast of production in the P. G. Merritt Survey. It flowed 471 bbls. of pipe line oil and 330,000 feet of gas daily through a quarter-inch choke, with working pressure 675 pounds and 300 pounds shut-in casing pressure. The hole is bottomed at 8,100 feet. After 7-inch casing had been cemented at 8,097 feet it was tested through perforated casing made with one hole at 8,096 feet and 17 holes from 8,088-95 feet. This probably will result in an active drilling campaign for this section of the field, as Humble Oil & Refining Co. and Pure Oil Co. hold offset acreage.

Interest at the Turtle Bay field, Chambers County, was revived by the showing made by Stanolind Oil & Gas Co. No. 1 Iola Mae White, approximately a half-mile north of production. It showed 870 feet of pipe line oil at 100 pounds working pressure on a 12-minute drill stem test from 6,586-6,614 feet through a quarter-inch choke.

Sand with thin streaks of shale showing oil was cored from 6,608-14 feet, and a string of 7-inch casing has been cemented at 6,605 feet. Location is in the M. A. Carroll Survey.

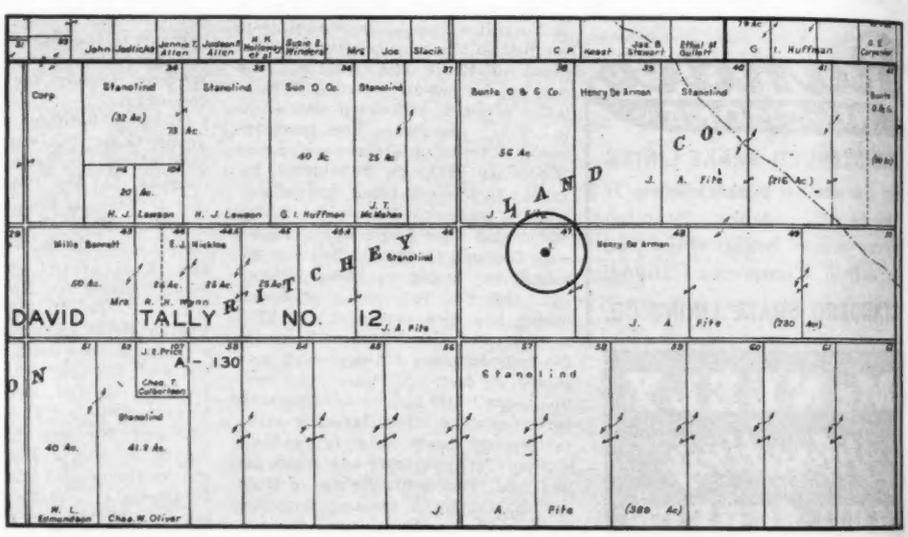
The Lockridge field, Brazoria County, recorded its third producer, extending the field a half-mile northeast by completion of Gulf Oil Corp. No. 1 Gibson, completed for an initial production of 347 bbls. of oil a day through a quarter-inch choke with tubing pressure 2,350 pounds and casing pressure 2,500 pounds. It is in the J. W. Hall Survey and is producing from a depth of 6,366 feet. Locations by the Gulf and Shell Petroleum Corp. are expected to be made during the week.

Completing Deep Test

Shell Petroleum Corp. is cleaning hole preparatory to completing No. 1 Maco Stewart at the Hitchcock Prospect in Galveston County for a gas well and using the fuel to drill No. 2 Maco Stewart, location of which will be announced this week. This test is the deepest ever drilled along the Texas Gulf and a series of drill-stem tests showed wet and dry gas at intervals. It has been standing shut down. To the southwest at Greens Lake, Sun Oil Co. No. 6 Hughes, 2,799 feet northeast of No. 4, is coring in shale and lime below 4,379 feet, after a section of sand showing oil was cored from 3,100-05 feet and at 3,231-3,362 feet.

At the Labelle Prospect, Jefferson County, Sun Oil Co. No. 2 Broussard is being washed in after the 7-inch screen was perforated with 46 holes from 8,211-16 feet. The well was tested two weeks ago, but had to be shut in when excessive pressures cut out some of the connection. At the time the well was cleaning itself it had begun to show oil. It is about a mile west of a dry hole drilled several months ago by the same company and abandoned at 9,848 feet.

Harrison & Abercrombie, who have already developed commercial production from 8,900- and 9,300-foot sands at the Old Ocean field, Brazoria County, are scheduled to make a production test of the 10,000-foot horizon at their No. 3 Bernard



C. B. Bunte and others No. 1 J. A. Fite, well on Sandy Point Prospect, Brazoria County, Texas, was completed in the Marginulina sand at 6,489-6,501 feet for a distillate well.—(W. W. Zingery, Maps, Houston, Tex.)

River Land Development Co., 1,972 feet from No. 2 in the Charles Breens Survey, as 4,304 feet of 7-inch casing was cemented at 10,004 feet. Bottom of the hole is 10,027 feet, which will be carried deeper before a production test is made. The last string of protection casing was cemented at 6,070 feet.

Locations for three wildcats were announced for Harris and Brazoria Counties. In Harris County, R. W. Ford and others No. 1 W. A. and O. C. Pruitt is situated in the G. Brooks Survey, while H. M. Harrel and others have staked No. 1 F. N. Bullock in the Charles Bowman Survey. On the Peach Point prospect, Brazoria County, Pure Oil Co. is to let contract next week for No. 1 P. M. Slade on a 46.25-acre tract in the S. F. Austin League Survey.

At the Silsbee field, Hardin County, Republic Production Co. and Houston Oil Co. No. 5 G. W. Brooks, an outpost test east of No. 4 in the G. Brooks Survey, swabbed salt water, and screen is being pulled preparatory to plugging back. The bottom of the hole was corrected by steel-line measurements from 6,980 to 6,998 feet, which is 18 feet deeper than expected, placing it below the water level. Seven-inch casing was cemented at 6,957 feet. Humble Oil & Refining Co. is moving in a rig for No. 1 Mrs. M. L. Kirby, an offset to production in the G. W. Brooks Survey.

Deeper Production Indicated

Deeper drilling possibilities around the south-

east flanks of the Clay Creek field, Washington County, were indicated by Sun Oil Co. No. 1 Lauter, approximately a quarter-mile from production in the Nester Clay Survey, which topped salt at 8,240 feet and is shut down in salt at 8,306 feet after making an electrical coring test. This test was scheduled to be drilled to the Woodbine sand expected at 9,000 feet. Several showings have been encountered around 7,400 feet, but tests failed to develop commercial production.

Stanolind Oil & Gas Co. No. 1 Calcasieu National Bank continues to get the attention of operators in that district as sand showing oil and gas was cored at 7,595-7,601 feet. An electrical coring test made of the section showed sand at 7,590-7,606 feet, with a maximum of 3 ohms resistivity and 105 millivolts porosity. Salt water sand was indicated from 7,006-19 feet and at last reports the bit was in salt water at 7,705 feet. The Marginulina section was encountered around 7,100 feet. Location is in section 28-7s-3w.

Union Sulphur Co., which took over operating control of the Big Lake field in Cameron Parish, has moved in a rig and spudded No. 1 J. O. Hebert, 1,282 feet north and 4,021 feet west of the SE cor. of section 18-12s-8w. It is north of the Magnolia Petroleum Co. No. 1 Broussard, the discovery well, a distillate producer.

S. C. Yingling No. 1-A State, in the old Bayou Bouillon field, Iberville Parish, cored oil sand at 3,150-60 feet and 3,250-54 feet and casing is being run for a production test. Location is in section 13-9s-8e.

Stanolind Oil & Gas Co. No. 1 Stovall, on the South Abbeville Prospect, Vermilion Parish, reached a depth of 12,133 feet and has been abandoned after an electrical coring test showing nothing of importance. This is the second 12,000-foot test drilled in the Coastal Louisiana district. Location is at the intersection of the Intracoastal Canal and the Vermilion River in Township 14s, Range 3e.

Eastern Fields

(Continued from Page 56)

at 2,115-22 feet, with 268,000 feet of gas at 2,118-22 feet and none below.

Oriskany Gas Field

No deep gas wells were completed during the week though one has reached the sand and several more the Corniferous lime. Two new locations were made. In Poca district, Guy B. Ray has a location for a test on the Elmer Thaxton and others lease on Tuppers Creek in Kanawha County. The elevation is 800 feet. In Elk district the Columbian Carbon Co. has a location for No. 2 on the W. L. Burdette farm. Here the elevation is 768.2 feet. The Yoake Oil & Gas Co. will drill No. 3 on the Goshorn heirs farm, Elk district, and the elevation is 830.14 feet.

In Elk district the United Fuel Gas Co. reached the Corniferous lime at 4,950 feet in the test on the Orth & Walker lease and the Oriskany sand at 5,003 feet. It will be drilled in this week. This company found the top of the Corniferous at 4,995 feet in the test on the A. J. Bruen and others No. 4,656 and in the test on the A. J. Bruen and others No. 4,677 at 4,920 feet. Their Nos. 4,689 and 4,690 on the W. C. McKee lease are drilling at 4,050 and 4,195 feet. The Columbian Carbon Co. is down 5,110 feet on the C. W. Vickers farm with the top of the Corniferous at 5,071 feet. The United Carbon Co. is down 4,700 feet on the Forest Copenhaver farm. Benedum & Trees has reached 2,290 feet on the John Slack heirs south of the Wingfield farm and 675 feet on the T. W. Walls and others lease. The Glen Oil & Gas Co. is drilling the second test on the Virginia Joint Stock Land Bank (Morse) at 225 feet.

In Poca district the United Carbon Co. is drilling at 4,750 feet on the L. E. Campbell farm and 4,940 feet in the No. 2 Ahaz Spencer. The Mullins Gas Co. is down 1,750 feet on the J. F. Corke farm. The Columbian Carbon Co. has reached 1,325 feet on the B. R. Reed farm. The Hays Oil & Gas Co. is building the rig for the test on the E. C. Humphreys farm.

In Malden district the United Fuel Gas Co. is down 5,012 feet on the George Creek Land & Mining Co. No. 4,658 with the top of the Corniferous at 4,996 feet. Its No. 4,679 on this tract is drilling at 2,500 feet. Godfrey L. Cabot, Inc. is down 4,060 feet in the No. 11 on the Campbells Creek Coal Co. lease. The Columbian Carbon Co. has reached 4,575 feet on the W. D. Lewis farm.

New Work

In Boone County the Owens-Illinois Glass Co. has a location for a test on the A. J. Ballard B lease in Washington district. The elevation is 1,104 feet. In this district G. L. Ballantine, Trustee, is setting a machine for a test on the Taylor & Shaw lease.

In Gilmer County A. E. Ellis has a location for No. 4 on the R. C. and Olive Webster lease in DeKalb district. In Glenville district Massey and Jarvis Drilling Co. is down 1,100 feet in a test on the W. I. Clovis farm.

In Kanawha County the Owens-Illinois Glass Co. is cleaning out the No. 1 on the Siler Coal Land Co. lease of 4,642 acres in Washington district, after completion and has made a location for a second test near Little Coal River.

In Lincoln County the Linkous Gas Co. has a location for a test on the Miles Linkous farm in Jefferson district. In Putnam County the West Virginia Gas Corp. has a location for No. 5 on the C. E. Albertson, Trustee, lease in Pocatalico district.

In Upshur County the Cumberland-Allegheny Co. has a location for a test on the J. L. McCoy farm in Meade district. The elevation is 1,704.6 feet. In Buckhannan district this company is down 2,360 feet on the Grace Ridgeway farm and 875 feet on the C. W. Teters farm.

In Wetzel County the Columbian Carbon Co. has a location for a test on the Franklin Fitzsimmons farm in Proctor district. C. B. Lewis and others have a rig standing on the James Gilbert farm in this district and are down 1,600 feet on the Joseph Blatt, Jr. farm. The Manufacturers Light & Heat Co. has a rig standing for test on the T. N. Scheidelhood farm.

Higher Crude Oil Prices

An increase in the price of crude oil is important news in the oil industry. It means greater revenue from oil production; oil properties are increased in value; activity will be materially stimulated.

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Rocky Mountain Area

TWO MORE GOOD PRODUCERS ARE ADDED TO COOPER POOL

By
T. R. INGRAM

DENVER, Colo., Feb. 1. — Continued cold weather, frozen water lines and blocaded roads are still hampering drilling operations in the Rocky Mountain area. One deep test at Watkins, 25 miles east of Denver, is resuming at 4,267 feet. The Gulf test in Kiowa County is reaching an interesting stage.

In Wyoming, the Murphy Oil Co. is preparing to test the first well to reach the Sundance on the Quealy dome in Carbon County. The Amerada deep well near Cheyenne had a show of gas in the Muddy at 8,588 feet. Lance Creek had a small extension in the Argo Oil Co. No. 3 Ford, which is testing.

Montana gasoline sales increased in December. The Dakota-Montana Utilities Co.'s test near Baker had salt water at 7,264 feet. One well was completed in Cut Bank and one new location was released. Kevin-Sunburst continues shut down.

NEW MEXICO

Two more good producers were added to the northwest edge of the Cooper pool. Yingling Oil Co. No. 1-A Vaughn, C SE NW section 3-24-36, topped oil pay at 3,540 feet, was bottomed at 3,577 feet, and flowed 100 bbls. of oil an hour, naturally, through tubing. Gas gauged 2,000,000 feet.

The Yingling company also completed No. 1-B-9 Vaughn, NE cor. section 9-24-36, at total depth of 3,686 feet. It topped pay at 3,670 feet and flowed 50 bbls. of oil an hour through three-fourths inch tubing choke. Gas volume was 1,000,000 feet.

Repollo Oil Co. No. 2 Ollie Boyd, section 23-22-37, on the east side of the north or Cary sand pool, was completed at 3,700 feet, total depth. It flowed 24 bbls. of oil in 24 hours through three-eighths inch bottom choke on 2-inch tubing. It was shot with 150 quarts from 3,595 to 3,646 feet, and later reshot with 200 quarts from 3,640 feet to bottom.

A completion on the southwest edge of the Monument pool, the Continental Oil Co. No. 1 Sanderson B, C E half NE NE section 10-20-36, flowed 102 bbls. of oil naturally in 24 hours through 12/64-inch choke on tubing. Pay was topped at 3,795 feet; total depth 3,900 feet.

Amerada Petroleum Corp. No. 1 Larsen, C SE NW section 32-19-37, Monument pool, topped oil pay at 3,802 feet and was completed at 3,915 feet, total depth, in lime. It was acidized with 2,000 gallons and flowed 251 bbls. of oil in 8½ hours through 1-inch tubing choke.

Ennisbrook Oil Corp. No. 1 Wulff, NW cor. section 17-20-37, flowed 120 bbls. of oil in one hour naturally through 1-inch tubing choke and was listed as another Monument completion. It topped pay at 3,765 feet and was bottomed at 3,855 feet.

In the Eunice sand, or Sims area, Devonian Oil Co. No. 1 Christmas, NE NE SE section 28-22-37, was shot with 180 quarts at 3,539-88 feet and flowed 40 bbls. of oil in 24 hours through 2-inch choke on tubing. Top of pay was 3,548 feet; total depth 3,607 feet.

Rushwold Oil Co. No. 1 E. E. Carter, C NW NE section 30-20-39, Lea County wildcat, was dry and abandoned when water intruded at 4,710-11 feet, total depth.

The El Paso Natural Gas Co. No. 2 Harrison, C NW NW section 29-24-37, wildcat 2½ miles east of the Cooper pool, was washed in when bottomed at 3,043 feet and tested 20,000,000 feet of gas. After drilling ahead to 3,150 feet, it showed 6,000,000 feet of sweet gas on drill stem test for 15 minutes. It was drilling ahead. Same company's No. 1 Harrison, C NW NW section 7-25-37, logged showings of gas at 2,825-36 feet and 2,863-74 feet, and was drilling ahead at 2,874 feet.

In Roosevelt County, Maxwell, Crandall & Osmond No. 1 Williamson, in section 7-8s-36e, wildcat, was dry and abandoned at 4,825 feet, total depth. A slight showing of oil was reported at 4,688-4,825 feet.

Roosevelt County

The Clovis Corp. No. 1 Smith, C NE SE section 17-2s-30e, Claudell district, which has been shut down the past 10 days for parts, has resumed and is drilling at 1,500 feet. This well, which is located 1½ miles north of No. 1 Wilmes, drilled by the same interests, which had important oil shows in two horizons beginning with the Glorietta sand. No. 1 Smith topped the Rustler at 1,110 feet as against 1,230 feet in No. 1 Wilmes, a rise of 120 feet, plus 25 feet difference in elevation. Production in the lower horizons should be assured provided it continues to hold the structural rise to the top of the lime.

Maxwell, Osmond & Crandall No. 1 Williamson, C NW NW section 7-8s-36e. Milensand district, had a small show in the lime at around 4,800 feet, was shot with 300 quarts and was plugged and abandoned when it failed to show an increase.

Franklin Oil Co. and others No. 1 Gephart, C NW NW section 28-3n-30e, west of Melrose, is drilling at 4,290 feet in its Pennsylvanian test.

Monument Area

Skelly Oil Co. No. 2 State F, C SW SE sec. 17-20-37. Cellar and pits.
Continental Oil Co. No. 1 Britt B, C NE NW sec. 8-20-37. Drlg. 3,648 ft.
Phillips Pet. Corp. No. 1 Patsy, C NW NE sec. 18-20-37. Drlg. 3,480 ft.
Humble O. & R. Co. No. 2 Laughlin, C SW SW sec. 4-20-37. Drlg. 3,890 ft.
Gulf Oil Corp. No. 2 Kutter A, C NW SE sec. 20-19-37. T.D. 4,002 ft.; S.D. for orders.
Stanolind O. & G. Co. No. 2 Gilluly, C NW NE sec. 21-20-37. Drlg. 3,846 ft.
Amerada Pet. Corp. No. 1 Byrd, C NW NE sec. 12-20-36. Drlg. 3,796 ft.
Amerada Pet. Corp. No. 2 Byrd, C SW NE sec. 12-20-36. T.D. 3,798 ft.; W.O.C.
Barnsdall Oil Co. No. 6 Cooper, sec. 7-20-37. T.D. 3,800 ft.; running csg.
Empire O. & R. Co. No. 4 Laughlin, sec. 8-20-37. Drlg. 3,765 ft.
Ohio Oil Co. No. 8 Barber, sec. 5-20-37. Drlg. 3,606 ft.
Ohio Oil Co. No. 1 Laughlin, sec. 9-20-37. Drlg. 2,650 ft.
Amerada Pet. Corp. No. 2 Larsen, C NE NW sec. 32-19-37. T.D. 3,800 ft.; set 6⅝-in. csg.
Amerada Pet. Corp. No. 1 Love, C NW SE sec. 32-19-37. T.D. 2,477 ft.; set 8⅝-in. csg.
Amerada Pet. Corp. No. 2 Anderson, C SE SW sec. 8-20-37. T.D. 2,408 ft.; W.O.C.
Amerada Pet. Corp. No. 2 Phillips, C NE SW sec. 33-19-37. Drlg. 2,225 ft.
Amerada Pet. Corp. No. 1-W State, C SE NE sec. 30-20-37. Drlg. 2,614 ft.
Amerada Pet. Corp. No. 2-W State, C SW NE sec. 30-20-37. Drlg. 2,258 ft.
Continental Oil Co. No. 1-B-18 Britt, C NW NW sec. 18-20-37. Drlg. 3,462 ft.
Gulf Oil Corp., No. 2 Anderson, C NE NW sec. 17-20-37. Drlg. 2,380 ft.
Gulf Oil Corp. No. 2-F Graham-State, NE NE sec. 36-19-36. T.D. 2,390 ft.; set 7⅝-in. at 2,384 ft.
Gulf Oil Corp. No. 2-B Kutter-State, C NW NW sec. 28-19-37. Drlg. 3,426 ft.
Gulf Oil Corp. No. 4 Mathews, C NE SE sec. 6-20-37. Drlg. 2,664 ft.
Gulf Oil Corp. No. 3 Sunshine, C NE SW sec. 30-20-37. T.D. 1,065 ft.; set 7-in. csg.
Gulf Oil Corp. No. 1-B Weir, C NW SE sec. 26-19-36. Drlg. 1,270 ft.
Gulf Oil Corp. No. 2 Whitmire, C NW NE sec. 8-20-37. Drlg. 2,987 ft.
Humble O. & R. Co. No. 2-D State, C NE NE sec. 20-19-37. Drlg. 3,847 ft.
Humble O. & R. Co. No. 9 State-Aggies, C SW NW sec. 31-20-37. T.D. 3,740 ft.; set 5½-in. csg.
Oil Well Drlg. Co. No. 1 Wood-State, NW¼ sec. 16-20-37. Drlg. 1,650 ft.
Oil Well Drlg. Co. No. 2 Wood-State, NW sec. 16-20-37. Cellar and pits.
Shell Pet. Corp. No. 4-B State, C SE NW sec. 36-19-36. Drlg. 2,510 ft.
Tide Water Oil Co. No. 2-I State, C NE SW sec. 16-20-37. Spudded.
Continental Oil Co. No. 3-A-17 State, C NW SW sec. 17-19-37. Moving in material.
Anderson-Prichard Oil Co. No. 7 Britt, SE NW SE sec. 7-20-37. Drlg. 70 ft.
Anderson-Prichard Oil Corp. No. 8 Britt, C SW SE sec. 7-20-37. T.D. 2,423 ft.; running csg.
Tide Water Oil Co. No. 2 State I, C NE SW sec. 16-20-37. Cellar and pits.
Amerada Pet. Corp. No. 3 Byrd, sec. 3-12-20. Rig.
Amerada Pet. Corp. No. 3 Larson, sec. 32-19-37. Derrick.
Atlantic Ref. Co. No. 2-M State, sec. 36-20-36. Rigging up rotary.
General Crude Oil Co. No. 1-G State, sec. 16-20-37. Rig.
Gulf Oil Corp. No. 3 Anderson, sec. 8-20-37. Rigging up rotary.
Magnolia Pet. Co. No. 2 Cary, sec. 21-22-37. Rigging up rotary.
Repollo Oil Co. No. 5 Barber, sec. 7-20-37. Cellar and pits.
Repollo Oil Co. No. 7 Barber, sec. 7-20-37. Location.
Repollo Oil Co. No. 2 State, sec. 32-20-37. Location.
Shell Pet. Corp. No. 1-M State, sec. 1-21-35. Drlg. 990 ft.
Texas Co. No. 2-J State, sec. 24-19-36. Loc.
Amerada Pet. Corp. No. 4 Larsen, sec. 32-19-37. Cellar and pits.
Texas Co. No. 1 Cook, SW NE NE sec. 32-19-37. Cellar and pits.
Humble O. & R. Co. No. 3 Loffland, sec. 4-20-37. Cellar and pits.
Continental Oil Co. No. 12 Britt B, sec. 18-20-37. Rig.
Continental Oil Co. No. 3 Britt B, sec. 18-20-37. Rig.
Phillips Pet. Co. No. 1 Mexico, NE cor. sec. 18-20-37. Cellar and pits.
Continental Oil Co. No. 11 Sanderson A, C SE SE sec. 11-20-36. Loc.
Amerada Pet. Corp. No. 4 Byrd, C NE NW sec. 12-20-36. Loc.

Eunice Area

Getty Oil Corp. No. 1 State D, C SE NE sec. 32-20-37. T.D. 3,860 ft.; testing.
Gulf Oil Corp. No. 2 Molly Campbell, C NE SW sec. 7-21-36. T.D. 3,900 ft.; testing.
Two States & Southern Pet. Ex. No. 1 McQuatters, C NW SE sec. 11-21-36. Drlg. 2,662 ft.
Gulf Oil Corp. No. 1 J. H. Daly, NE NE SW sec. 6-23-36. T.D. 3,831 ft.; testing; flowed 400 B.O. in 24 hrs.
Gulf Oil Corp. No. 2 Sunshine, C SE SW sec. 30-20-37. T.D. 3,840 ft.; to acidize.
Texas Pacific Coal & Oil Co. No. 3 State A, Acct. 2, C SW NE sec. 8-22-36. Drlg. 3,850 ft.
Gulf Oil Corp. No. 4-C Bell-State, C SE NW sec. 15-21-36. Drlg. 2,762 ft.
Gulf Oil Corp. No. 4 Collins, C NE SW sec. 14-21-36. Drlg. 2,730 ft.
Gulf Oil Corp. No. 4 Houston, C NW SE sec. 7-21-36. Derrick.
Gulf Oil Corp. No. 4-C Janda-State, C NE SW sec. 15-21-36. Drlg. 2,723 ft.
Gulf Oil Corp. No. 4 Leonard, C SW NE sec. 22-21-36. Rigging up rotary.
Gulf Oil Corp. No. 6 Orcutt C, C NE NW sec. 6-21-36. Drlg. 3,135 ft.
Bert Fields et al No. 1 Turner-State, SW SW NE sec. 32-20-37. Drlg. 660 ft.
Continental Oil Co. No. 18-H-4 Meyer, C NW NE sec. 4-21-36. Drlg. 900 ft.
Continental Oil Co. No. 4-D-11 State, C NE SW sec. 11-21-36. Rigging up rotary.
Texas Co. No. 2 Rector, NE NW SE sec. 30-21-36. Rigging up.
Jim Murray No. 4 State-Wallace, sec. 3-21-36. Cellar.
Shell Pet. Corp. No. 3 State K, C SW NE sec. 36-20-36. Drlg. 47 ft.
Humble O. & R. Co. No. 10 State Aggies, sec. 31-20-37. Cellar and pits.

Sims Area

Skelly Oil Co. No. 1 R. R. Simms C, C SE SW sec. 3-23-37. T.D. 3,387 ft.; S.D. for repairs.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,150 ft.; S.D.O.
W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. T.D. 3,380 ft.; set 7-in. csg.
J. E. Farrell No. 1 Walden C, sec. 15-22-37. T.D. 3,537 ft.; fishing.
J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 3,537 ft.; waiting on machine.
Skelly Oil Co. No. 2 R. R. Simms, C NE SW sec. 3-23-37. Drlg. 1,196 ft.
Skelly Oil Co. No. 2 Ella Simms, C SW NE sec. 3-23-37. Drlg. 1,617 ft.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,514 ft.; S.D. for orders.
Shell Pet. Corp. No. 1 Guthrie, C SW SE sec. 34-23-36. T.D. 3,928 ft.; P.B. 3,780 ft.; S.D. for orders.
El Paso Natural Gas Co. No. 1 G. W. Toby, C SE SE sec. 12-24-36. Drlg. 2,965 ft.

Lea County—Miscellaneous

Plains Prod. Co. No. 4 Knight, C SW SW sec. 22-24-37. Drlg. 750 ft.
C. L. Carlock et al No. 1 Quincy-Ricker, C SE SE sec. 7-16-36. Wildcat; drlg. 5,120 ft.
J. C. Clower No. 1 Turner, C SE SE sec. 29-21-37. T.D. 3,780 ft.; testing.
Culberson-Irwin & Stovall No. 2 Stuart, NW SE NE sec. 20-25-7. T.D. 3,277 ft.; P.B. 3,175 ft.; setting whipstock.

Samedan Oil Co. No. 2 Hughes, C NW SE sec. 4-23-37. T.D. 3,625 ft.; cleaning out.
Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; drlg. 3,884 ft.
Baldridge et al No. 1 Blakely, C NW NE sec. 5-20-38. Wildcat; drlg. 4,180 ft.
Maxwell, Crandall & Osmond No. 1 Lane-State, C SW NW sec. 32-10-34. Wildcat; sulfur water 4,809-10 ft.; T.D. 4,819 ft.; S.D.
Tide Water Oil Co. No. 1 Coates B, C NW NW sec. 21-25-37. T.D. 3,077 ft.; P.B. 3,032 ft.; C.O.
Amon G. Carter No. 2 Elliott, C NE NW sec. 22-22-37. Drlg. 3,542 ft.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 24-17-34. Drlg. 4,480 ft.
Empire O. & R. Co. & Repollo Oil Co. No. 1 Brunson, NW NW SE sec. 4-22-37. T.D. 3,600 ft.; killing gas.
Anderson-Prichard Oil Corp. No. 2 Carlson, C SW NW sec. 21-25-37. T.D. 2,925 ft.; flowed 85 B.O. per day.
Getty Oil Co. No. 1 Etz, C NE NE sec. 12-21-32. Wildcat; drlg. 1,742 ft.
Culberson-Irwin & Stovall No. 3 Stuart, NE SE SW sec. 10-25-37. Cellar and pits.
Continental Oil Co. No. 1 Wantz, C SW SW sec. 21-21-37. Drlg. 3,815 ft.
Maljamar Oil & Gas Co. No. 8 Baish, C SW NW sec. 21-17-32. Bldg. rig.
Mid-Continent Pet. Corp. No. 1 Greer, sec. 21-22-36. Drlg. 2,154 ft.
Ohio Oil Co. No. 5 State-McDonald, sec. 16-22-36. Drlg. 3,511 ft.
Stanolind O. & G. Co. No. 1 Meyers, sec. 22-24-37. Drlg. 1,570 ft.
Texas Co. No. 1 Alexander, sec. 5-21-37. Drlg. 545 ft.
El Paso Natural Gas Co. No. 2 Harrison, C NW NW sec. 29-24-37. Drlg. below 3,150 ft.
El Paso Natural Gas Co. No. 1 Harrison, C NW NW sec. 7-25-37. Drlg. 2,880 ft.
Continental Oil Co. No. 3-A-19 Eaves, C N half NW SW sec. 9-26-37. Drlg. 3,090 ft.
Sun Oil Co. No. 2 Stewart, C SW NE sec. 15-25-37. Loc.
Tide Water Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Drlg. 420 ft.
Continental Oil Co. No. 1 Skaggs Permit, C NE SE sec. 24-20-37. Wildcat; rigging up rotary.
Tide Water Associated Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Cellar and pits.
Shell Pet. Corp. No. 2 Black, C SW SE sec. 21-24-37. Drlg. 570 ft.
Texas Co. No. 3 Sheppard B, SW NE NE sec. 5-26-37. Drlg. 2,548 ft.
J. L. Perry No. 1 Elliott, SE cor. sec. 19-21-37. Moving in material.
Samedan Oil Co. No. 3 Hughes, sec. 4-23-37. Cellar and pits.
Texas Co No. 2 Black, sec. 21-24-37. Location.

Eddy County

Fred Brainard No. 1 Berry, C E½ NW NW sec. 23-17-27. Drlg. 2,124 ft.
Etz Bros. No. 3 State, sec. 16-17-30. T.D. 3,252 ft.; S.D. for csg.
Hammond et al No. 1 State, SW SE SW sec. 15-27-28. T.D. 1,967 ft.; testing.
McGinley & Harwell No. 7 Mann, SW cor. sec. 4-18-27. Drlg. 1,515 ft.
Clint Murchison et al No. 1 State A, C NE SW sec. 16-17-31. Drlg. 3,485 ft.
Premier Pet. Co. No. 1 McIntyre G, NW NW NE sec. 21-17-30. Drlg. 3,333 ft.
Flynn, Welch & Yates No. 75 State, C E½ SE SE sec. 10-19-28. T.D. 2,135 ft.; S.D.O.
Flynn, Welch & Yates No. 3 Gissler, SW SE SW sec. 14-17-30. Drlg. 3,062 ft.
Adams et al No. 1 Page, sec. 15-21-18. Wildcat; machine.
Republic Prod. Co. No. 7 Russell A, NW SE NW sec. 18-17-31. Drlg. 325 ft.
Red Lakes Oil Co. No. 8 State, SE NW SW sec. 22-17-28. Drlg. 725 ft.
Republic Prod. Co. No. 3 Robinson Permit, C NE NE sec. 27-17-29. Rig.
Neil H. Wills No. 1 Colglazier Permit, C NW NE sec. 20-20-30. T.D. 70 ft.; S.D.O.
Barnsdall Oil Co. No. 5 Dodd, sec. 22-17-29. Drlg. 294 ft.
Flint Prod. Co. No. 1 Flint, sec. 14-17-30. Drlg. 2,950 ft.

Roosevelt County

Clovis Corp. No. 2 Wilmes, C SE NE sec. 17-2s-30e. T.D. 1,410 ft.; S.D.
Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. T.D. 4,290 ft.; S.D. for repairs.

Hobbs Field

Stanolind O. & G. Co. No. 30-X Capps, SE sec. 3-19-38. T.D. 215 ft.; set 13-in. csg.

Otero County

George Muldey No. 1 State, SW cor. sec. 11-25-8e. Spudded.
O. K. Hearte No. 1 Hattie Evans, NW NW SW sec. 22-24-12. O.W.D.D.; wildcat; T.D. 1,605 ft.; underreaming.

NORTHWEST NEW MEXICO

Bernalillo County

Norrine Realty Co., Inc., No. 2 North Albuquerque, SE NW NW sec. 19-11n-4e. S.D. 3,000 ft.

McKinley County

S. Dysart No. 1 Bouten, NW NE sec. 14-14n-10w. S.D. 1,390 ft.
Dave Stacey No. 1 Pat'd., NW SE NW sec. 28-30n-9w. Drlg. 275 ft.
Claude Walker No. 5 fee, SW SE sec. 20-20n-9w. T.D. 440 ft.; tstg.

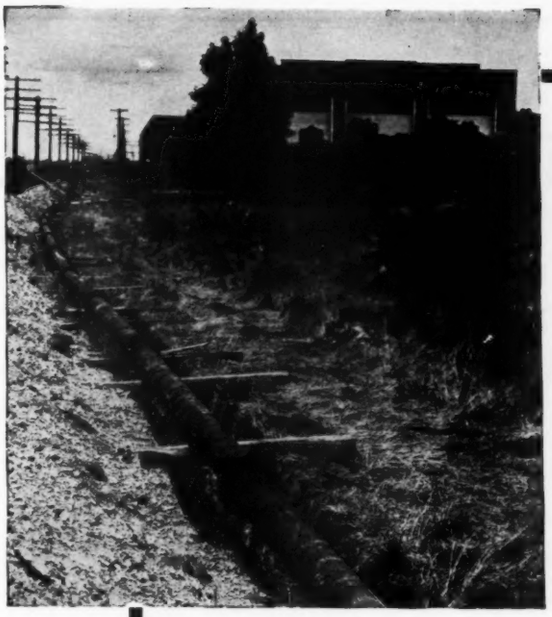
San Juan County

Sanford B. Bashaw No. 2 Stallings, SW NW NW sec. 2-29n-16w. T.D. 1,154 ft.; S.O. 1,100-20 ft.; S.D. to run rods and test.
Angel Peak Oil Co. No. 7 Govt., Lot 2, sec. 11-28-11w. S.D. 1,160 ft.
Jack Amanda No. 4 Hart, NW NE SW sec. 25-30n-12w. Drlg. 1,540 ft.

COLORADO

Adams County

The Glenridge Oil Corp. No. 1 Hills, in the Watkins district, 25 miles east of Denver, an important test in the Denver Basin, is resuming at 4,267 feet after being shut down for several months. At the time of closing down the hole was having some shows of oil in shale above the Hygiene sand, but caving interfered with opera-



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tions and it was decided to run and carry the 6¼-inch. The rig has been overhauled, boilers repaired, a new cable installed and the casing is on the rack. It is drilling out plug at bottom and will run pipe as soon as this work is completed.

Glenridge Oil Corp. No. 1 Hills, SE cor. sec. 27-3s-64w. Resuming at 4,267 ft.

Archuleta County

Archuleta Oil & Gas Co. No. 1 Reeder, SW SE SW sec. 24-33n-2e. T.D. 1,185 ft.; prep. to resume.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. S.D. 2,700 ft.

Kiowa County

The Gulf Oil Corp.'s deep test in the Eads district, one of the most important wildcats so far started in eastern Colorado, is approaching its most interesting stage. It is now down about 5,400 feet with 7,000 feet as the contract depth. It has had several slight shows of oil, not enough free oil to show through the mud, but sufficient to offer encouragement as to the probable results in the objectives, none of which have yet been reached. The hole has been unloaded once and a Schlumberger tester was run once. The 10¾-inch was set on top of the Pennsylvanian at 3,925 feet. If the hole is still in good sedimentary beds at the contract depth, it will be carried on down to the granite to make a thorough test of all horizons. The company has more than 1,300,000 acres, including the Union Pacific acreage, under lease in eastern Colorado and regardless of the outcome of the present well, it is believed other of its blocks will be tested.

Gulf Oil Corp. No. 1 Riser-Union Pacific, C SW NE sec. 1-17n-50w. Drlg. 5,388 ft. in L.

LaPlata County

Detroit Oil Association No. 1, NW SW sec. 9-35n-12w. S.D. indef. at 3,397 ft.

McGarr Pet. Co. No. 1 Pinon Mesa Land Co., CSL NE NE sec. 34-33n-12w. Cmtd. 6-in. at 9,450 ft.; D.D. to 3,680 ft.; S.D.

Las Animas County

Divided Oil & Refrs., Inc., No. 1 Hollenback, C NW SE sec. 12-33s-60w. S.D. 130 ft.; weather (loc. cor.).

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61. S.D. 1,046 ft. for 15½-in.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE SW sec. 7-17-62. T.D. 2,096 ft.; drlg. up bailer.

Moffat County

Anderson-Kerr Drlg. Co. et al No. 1 Govt., C SE SE sec. 19-9n-99w. Set 195 ft. of 15½-in.

Mountain Fuel Supply Co. No. 1 J. C. Donnell, C SE NE sec. 31-12n-97. Rig; S.D. until spring.

Mountain Fuel Supply Co. No. 1 Stewart, C SW SW sec. 31-12n-97w. Drlg. 2,965 ft.

Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 32-12n-100. T.D. 2,790 ft.; P.B. to 2,537 ft.; cmtd. 4½-in. at 1,495 ft.; S.D. for winter.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. Resumed; T.D. 1,718 ft.; C.O. to test S.O.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. S.D. 3,615 ft.; water line frozen.

South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. T.D. 5,705 ft.; prep. to core.

WYOMING

Albany County

The first well to reach the Sundance sand on the Quealy dome is a near completion in the Murphy Oil Co. No. 5 Holst, a north offset to the discovery in the Muddy and Dakota sands. It topped the Sundance at 3,670 feet and is drilling plug after setting the 7-inch at that depth. Total depth is 3,764 feet. The sand showed saturation and probably will make a small well.

Murphy Oil Co. No. 5 Holst, SE NE SE sec. 13-17n-77. T.D. 3,764 ft.; cmtd. 7-in. at 3,670 ft.; drlg. plug to test Sundance.

Hal Biakeman No. 1 Chapple, C NE NW sec. 31-21-76. S.D. 1,680 ft.

Murphy Oil Co. No. 6 Holst, NW NE SE sec. 13-17n-77. T.D. 150 ft.; 13⅜-in. cmtd. 133 ft.

Big Horn County

The Ohio Oil Co. No. 1 Clarrisa Willey, NE NE NW section 25-56n-97, Byron dome, reported a completion at 5,429 feet two weeks ago and swabbing 120 bbls. first 10 hours and then shut down for tankage, made 300 bbls. per day an initial 24-hour test. The 7-inch was cemented on top of the Tensleep at 5,250 feet.

The Stock Oil Co. No. 1 Allen, which has been out of control for more than a year, succeeded in reducing the gas flow from 60,000,000 to 5,000,000 feet a day through flooding from relief well. Fire was extinguished by shooting. Attempt was then made to rig up to pump mud in through the tubing remaining in the top of the hole. Water coming out of the hole froze, however, faster than it could be chopped and steamed away from the rig and the gas again was ignited.

Ohio Oil Co. No. 1 Baker-Byron, SE NW sec. 23-56n-97w. Drk.; S.D.

Stock Oil Co. No. 1 Allen, Lot 52, sec. 32-46n-97. T.D. 3,825 ft.; trying to kill.

Stock Oil Co. No. 1-B Allen, Lot 52, sec. 32-46n-97. T.D. 3,800 ft.; pmpg. wtr. into No. 1 Allen.

Ohio Oil Co. No. 1 State, NE cor. Lot 38, sec. 36-46n-97. Drlg. 4,963 ft. in r.b.

Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 34-56n-97. S.D. 3,030 ft.

Peay Oil Co. No. 1 Denjo Hr., 43-C, sec. 15-55n-87w. S.D. 3,930 ft.; C.O.

Peter Evanoff et al No. 1 McAllester, NW NE SE sec. 9-55n-87. S.D. 3,015 ft.; will run 8⅝-in. and go to Madison.

J. W. Bales No. 1 Parker, C SW SW sec. 23-49n-89w. S.D. 1,010 ft.; bad weather.

Carbon County

Ohio Oil Co.-California Co. No. 2 Kyle, C SE SE sec. 26-21n-79w. R.U.R.

Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. R.U.R.

Ohio Oil Co. No. 1 H.&C., SE SE SW sec. 35-20n-78w. O.W.D.D.; T.D. 2,733 ft.; R.U. to deepen to Sundance.

Ohio Oil Co. No. 7 H.&C., C NW sec. 2-19-78. Drlg. 4,820 ft. in r.b.

General Pet. Corp. No. 1 Union Pacific, SW NW sec. 19-83w. P.B. from 5,557 ft. and set 8⅝-in. at 2,875 ft.; prep. to test.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. S.D. 3,050 ft.; may install rotary.

Wyoming Southern Oil Co. No. 2 Salisbury, NE NW SE sec. 27-22n-69w. S.D. 336 ft. acct. weather.

Campbell County

C. J. Shearin et al No. 1 Rhodes, NE SE SW sec. 21-49n-74. S.D. 191 ft.

Fremont County

C. E. Nelson No. 2 Enos, SW NE SW sec. 27-2n-1w. Drlg. 1,012 ft.

Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. Drlg. 3,165 ft.; 4½-in. at 3,145 ft.

Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE SW SW sec. 1-32n-92w. T.D. 7,293 ft.; S.D. for winter with H.F. oil.

Goshen County

Ohio Oil Co. No. 1 Red Cloud Cattle Co., NW NE NW sec. 28-29n-62w. Drlg. 830 ft.

Laramie County

The Amerada Petroleum Corp. No. 1 Morton, on the Borie High, southwest of Cheyenne, which recently set the 11¾-inch casing at 7,033 feet, establishing a world record for the heaviest string of pipe run into a hole, is drilling at 8,618 feet and reaching a critical stage. It lacks only 108 feet of establishing a new depth record for the Rocky Mountain area. It had 8 feet of the Muddy sand at 8,558-66 feet with the Dakota as the next objective. The Muddy showed some oil stains and a Halliburton test revealed a little gas. While its contract depth is 9,000 feet, it is not expected to stop when that depth is reached.

Amerada Pet. Corp. No. 1 Morton, C SW SW sec. 13-13n-68. Drlg. 8,618 ft. in sdy. sh.

Lincoln County

H. M. Eller et al No. 3 Govt., NE SE SW sec. 32-19n-116w. T.D. 610 ft.; prep. to skid rig to offset loc.

Place Oil Co. No. 1 Davis per., SE cor. sec. 9-26n-113. Drlg. 670 ft.

Senrab Oil Co. No. 3 Govt., CSL SE NW sec. 10-36n-113w. S.D. 1,020 ft.

Natrona County

The Wyalta Oil Co., of which George W. Jarvis, of Casper, is head, has been reorganized and financed and is cleaning out two of its old wells in the Spindletop field, section 32-30n-81, 30 miles southwest of Casper, and will put them on production. A test to the Tensleep will be started this spring. The wells make 22 gravity oil of mixed base from the Sundance at around 1,100 feet. The field has been shut in for several years. The Kinney-Coastal Oil Co., which developed the adjoining Bolton Creek dome, sold its interests several years ago. A deep test at Bolton Creek showed a reversal of normal conditions in the quality of crude which usually drops in gravity with depth in the Wyoming fields. The production in the base of the Sundance or top of the red beds, while high in lubricants, ran from 18 to 22 gravity. The Pennsylvanian oil tested up to 33 and 34 gravity. The Wyalta company will truck the crude to Casper.

Western Producers, Inc., No. 1 Govt., NW SW SE sec. 5-39n-78. Drlg. 631 ft.

Summit Oil Co. No. 1 Trevett, NW cor. sec. 21-33n-80w. S.D. 1,861 ft. acct. weather.

Niobrara County

The productive area of the Lance Creek field was extended one 40-acre unit to the north in the Argo Oil Co. No. 3 Ford, SW SW NW section 33-36n-65. It is an outside well on Lusk Royalty land, a north offset to the Ohio Oil Co. No. 5 Putnam and an east offset to the Ohio No. 3 Agnes Rohlff. It was completed at 3,990 feet in the basal Sundance at 3,973-90 feet and with the 7-inch at 3,968 feet. It was swabbed and started to flow. It made 60 bbls. and then stopped and is preparing to swab and test. It probably will be a pumper. Elevation is 4,413 feet.

J. M. Huber Corp. No. 1 Midwest, SE SE SW sec. 27-36n-65w. Dismantling old equipment and prep. to install rotary to deepen from 3,540 ft. to the Sundance.

Bay-Elwell No. 1 Joss, C SE SE NW sec. 1-34n-66w. S.D.O. 2,324 ft.; hole full of water.

Continental Oil Co. No. 5-A Schuricht, C NW SW sec. 5-35n-65w. Drlg. 3,858 ft. in top second Sundance; top first Sundance 3,706 ft.

Holly Dev. Co. No. 1 Novick, NE SE SW sec. 6-35n-65. Drlg. 3,545 ft.

Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. Drlg. 970 ft.

J. M. Huber Corp. No. 2 Joss, NE NE SW sec. 6-35n-65. T.D. 3,999 ft.; swbd. 150 B.P.D.; R.U. to pump.

Ohio Oil Co.-No. 5 Leo OPC-16, NW NW SW sec. 35-36n-65w. Rig.

Ohio Oil Co. No. 7 Putnam, NE NE SW sec. 33-36n-65w Drlg. 2,245 ft.

Ohio Oil Co. No. 9 Lamb, C SE NW sec. 5-35n-65w. T.D 4,055 ft.; top sat. basal Sundance at 4,050 ft.; rng. 7-in.

Riggs Oil Co. No. 2 Spaugh, SE SW SW sec. 32-34n-65w. S.D. 1,032 ft. for winter.

Chester Oil Co. No. 1 fee, NE NE NE sec. 14-39n-61. Drlg. 1,041 ft.

Park County

General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. T.D. 5,660 ft.; fsg. D.P.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Drlg. 2,485 ft.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-56-85. S.D. 3,200 ft.

Washakie County

Nystrom & Smoot No. 4 State, CEL NE NE sec. 36-48n-91w. T.D. 1,617 ft.; S.O. 1,582 ft.; tstg.

Wood-Callahan Oil Co., Ltd., No. 1 Keye, NE NE NW sec. 25-48n-91w. T.D. 1,831 ft.; wtr. and S.O.

Weston County

Conray Oil Corp. No. 2 Govt., SE SE NW sec. 7-41n-60w. Cmtd. 10-in. at 588 ft.; W.O.C.

MONTANA

Montana gasoline sales in December amounted to 7,828,500 gallons, an increase of 114,470 gallons over November. Products refined in the state in December was 4,405,407 gallons, which compares with 5,015,330 gallons in November and imports were 3,423,093 gallons in December and 2,698,700 in November.

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. T.D. 3,840 ft.; prep. to test.

Cascade County

C. Leonard Smith No. 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. S.D. 620 ft. in top of Dakota for winter.

Carbon County

The Ohio Oil Co. No. 1 Northern Pacific, a west offset to the Dry Creek discovery well in the Frontier, which was deepened from old total depth of 4,469 feet in the Frontier, is being plugged back to that horizon to recomplete as a gas well. It was deepened to 5,549 feet where it standardized and tested the Dakota. Failing to obtain satisfactory results, it changed back to rotary and tested the Lakota at 5,542-72 feet and had bottom water. Location is on the south flank of the structure.

East Bridge O. & G. Co. No. 1, CSL SE SE sec. 23-6n-23e. S.D. 1,477 ft.; rng. 8¼-in. to bottom; Dakota at 1,428-32 ft.; dry.

Ohio Oil Co. No. 1 Northern Pacific, SE NE SW sec. 11-7n-21. T.D. 5,772 ft.; P.B. to Frontier.

Miracle Oil Co. No. 2 Blue Creek, CWL NE NE sec. 3-6s-23e. Drlg. 1,260 ft.; prep. to run 8¼-in.

Henderson Prod. Co. No. 1-H-11 Elk, 11, SE SE NW sec. 35-9s-23e. S.D. 810 ft.; weather.

Fallon County

The Montana-Dakota Utilities Co. No. 2 Warren No. 1 Unit 5, north of Baker and 25 miles north of the deep discovery well on the Baker-Glendive anticline, ran into salt water at 7,264 feet and will plug back to 2,200 feet and complete as a gas well. While this test is on a separate local high from the well 25 miles to the south, and there is no direct relationship between the two tests, a differenc of about 500 feet in structural elevation points to the southern end of the anticline as being the most favorable for oil production. The horizon encountered at 7,264 feet is the same in which the first oil was found in the south well at 6,747 feet.

Montana-Dakota Utilities No. 2 Warren No. 1, Unit 5, C SW sec. 23-8n-59e. T.D. 7,264 ft.; will P.B. to 2,200 ft.

(Continued on Page 78)

East and East Central Texas

By
L. E. BREDBERG

TWO WILDCAT LOCATIONS IN EAST TEXAS ARE ANNOUNCED

DALLAS, Tex., Feb. 1.—Two more wildcat locations were announced for the East Texas district in the past week, one in Cherokee and another in Van Zandt County. A Trinity test on the east side of the Van field was located last week by the American Liberty Oil Co. and others.

The General Crude Oil Co., which a few months ago abandoned a try north of Jacksonville in Cherokee County, is now moving in material for a wildcat on the O. A. Braley farm, in the J. Thomas Survey, 4 miles east of Mount Selman, in the same county.

The new wildcat for Van Zandt County is to be put down by the H. & H. Drilling Co. and others on the J. W. Jones 78-acre tract in the James Smith Survey, 3 miles southeast of Ben Wheeler. Derrick has been erected on the location. This and the Cherokee County test are expected to go to the Woodbine sand only.

A wildcat is expected to be drilled 3 miles southwest of Mount Pleasant in Titus County in the near future as a result of a block of some 12,000 acres having been leased by Stidham & Thrasher in this area. The block extends over into Camp County. This area is about 21 miles southeast of the Talco field, where production is found in the Paluxy, upper member of the Trinity series.

If the Trinity test of the Superior Oil Co. of California misses production on its deep wildcat on the P. D. Paul farm, in the Mary Latham Survey, 4½ miles northeast of Quinlan, on the fault line, in Hunt County, there will be many misgivings, as companies and independents have leased thousands of acres surrounding the block held by this company and associates, and it is believed to have the most promising chances for making a producer. Companies still are leasing in the area, also leasing more acreage to the north and east along the fault through Hunt and Hopkins counties. The test is now down below 3,800 feet making good drilling time.

No Wildcat Completions

There were no wildcat completions reported for the district this week, although the eastern Rains County test of the Humble Oil & Refining Co. and Tide Water Oil Co. on the Easter tract, in the R. Hotchkiss Survey, 5 miles northwest of Alba, is expected to be given up as a failure for it is nearing the 7,800-foot mark with no showings of oil or gas. This is another important Trinity test for the district.

Three more wells were completed in the Talco field in Titus County, two by the Humble Oil & Refining Co. and one by the Magnolia Petroleum Co. There are now 195 producers in the field with price of the oil boosted 8 cents a barrel last week to 73 cents by the Humble Oil & Refining Co., chief buyer and transporter in the field.

The higher price of East Texas oil, now $1.27 a barrel, will mean an average increase of around $75.50 cents per well each month for the operators and the 22,143 wells in the field.

Only 26 wells were completed in the East Texas field this week, one proving a dry hole. At the same time only 28 locations were staked, it now appearing as weekly location reports would not reach the 30 mark again, companies and independents slacking off perceptibly in their drilling operations.

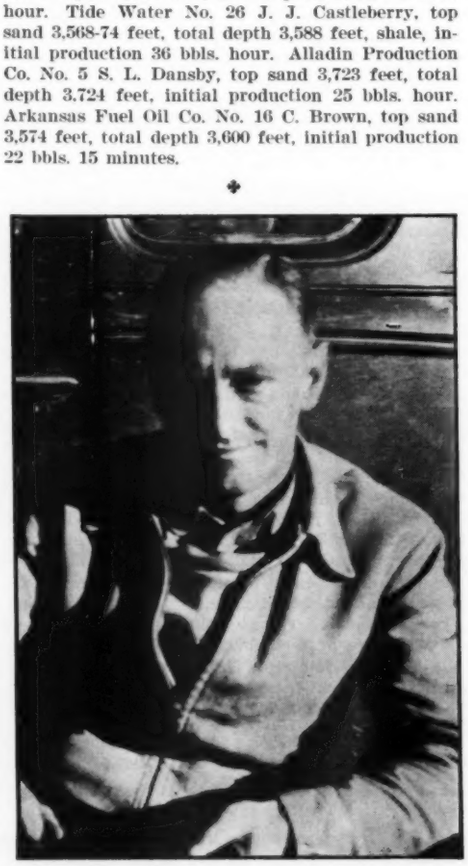
EAST TEXAS COMPLETIONS

Rusk County

Gulf Oil Corp. No. 21-A C. E. Christian, top sand 3,578 feet, total depth 3,619 feet, shale, initial production 100 bbls. hour. Humble Oil & Refining Co. No. 3-B Turner, water sand 3,578-80 feet, oil sand 3,597-3,600 feet, total depth 3,630 feet, lime, initial production 3 bbls. 24 hours on air lift, top Geo. lime 3,624 feet. Jaggers-Taylor No. 2 Dickerson, top sand 3,555-64 feet, total depth 3,610 feet, initial production pump 40 bbls. 24 hours. Moss & Urschel No. 5 Griffin, top sand 3,619 feet, total depth 3,750 feet, shale, initial production 60 bbls. two hours. Stanolind Oil & Gas No. 4 J. W. Ashby, top sand 3,698 feet, total depth 3,714 feet, swab 20 bbls. three hours. Texas-Canadian No. 9 A. Kersh, top sand 3,652 feet, total depth 3,653 feet, initial production 40 bbls. hour.

Gregg County

Dillard Oil Co. No. 5 W. E. Jones, top sand 3,626 feet, total depth 3,666 feet, initial production 50 bbls. hour. Gulf Oil Corp. No. 82 Judge, top sand 3,522 feet, total depth 3,528 feet, initial production 20 bbls. 15 minutes. Humble Oil & Refining Co. No. 27 Armstrong, top sand 3,539 feet, total depth 3,618 feet, shale, initial production 86 bbls. hour. J. Long Drilling Co. No. 16-A W. W. Owens, top sand 3,574 feet, total depth 3,585 feet, shale, initial production 40 bbls. hour. B. F. Phillips No. 1-B T.&P. (Compton), top sand 3,629 feet, total depth 3,630 feet, initial production 35 bbls. hour. Stanolind Oil & Gas Co. No. 24-B F. K. Lathrop, top sand 3,599 feet, total depth 3,629 feet, initial production 54 bbls. hour. Tide Water No. 26 J. J. Castleberry, top sand 3,568-74 feet, total depth 3,588 feet, shale, initial production 36 bbls. hour. Alladin Production Co. No. 5 S. L. Dansby, top sand 3,723 feet, total depth 3,724 feet, initial production 25 bbls. hour. Arkansas Fuel Oil Co. No. 16 C. Brown, top sand 3,574 feet, total depth 3,600 feet, initial production 22 bbls. 15 minutes.



Geologist J. G. Mitchell, Pure Oil Co., Tulsa, grabbing samples at a wildcat well drilling near Medicine Lodge, Kans.

Barnsdall Oil Corp. No. 12 J. Douglas, top sand 3,684 feet, total depth 3,685 feet, initial production 15 bbls. hour. L. W. Callender and others No. 16 W. B. Walker, top sand 3,563 feet, total depth 3,564 feet, initial production 40 bbls. hour. Echo Oil Co. No. 1-A Trip Elder, top sand 3,552 feet, total depth 3,560 feet, initial production 80 bbls. 4 hours. H.&F. Corp. No. 5 Crews, top sand 3,722 feet, total depth 3,723 feet, initial production 15 bbls. 30 minutes; No. 8 W. P. Crews, top sand 3,720 feet, total depth 3,722 feet, initial production 15 bbls. hour Lyon-Neely and others No. 10-B S. J. Richards, no sand, total depth 3,541 feet, shale, dry and abandoned. Sun Oil Co. No. 17 W. L. Pentecost, top sand 3,506 feet, total depth 3,631 feet, initial production 53 bbls. hour. Vierson-Kingwood No. 8 Muckelroy, top sand 3,535 feet, total depth 3,545 feet, initial production 60 bbls. hour.

Smith County

Sun Oil Co. No. 5 J. P. Seale, top sand 3,688 feet, total depth 3,689 feet, initial production 15 bbls. hour.

Upshur County

P. H. Pewitt No. 3-A J. H. Sobey, top sand 3,735 feet, total depth 3,737 feet, initial production 20 bbls. hour. T. K. Simmons No. 1 J. M. Evers, First sand 3,814 feet, Second sand 3,822 feet, total depth 3,824 feet, initial production pumping 35 bbls. three hours. J. E. Watts No. 8 O'Byrne, top sand 3,780 feet, total depth 3,793 feet, initial production 40 bbls. hour.

Anderson County

Tide Water-Seaboard No. 24-A Wills, top oil sand 4,053 feet, total depth 4,068 feet, initial production 135 bbls. 24 hours.

Titus County

Humble Oil & Refining Co. No. 24 King-Hughes, top sand 4,198 feet, total depth 4,321 feet, lime, initial production pump 218 bbls. 24 hours.; same company's No. 4 Monnig Dry Goods, top sand 4,191 feet, total depth 4,315 feet, initial production 155 bbls. 22 hours one-quarter inch choke. Magnolia Petroleum Co. No. 4 W. H. Crawford, top sand 4,160 feet, total depth 4,310 feet, initial production pumping 373 bbls. 24 hours.

Van Zandt County

Van Zandt Syndicate No. 2 C. S. Cocker, total depth 1,225 feet, shale, pumping 1½ bbls. of 24 hours.

To Open Texas Office

CORPUS CHRISTI, Tex.—Stapper Petroleum Corp. of New York City has announced plans for opening a district office in Corpus Christi. The company which is beginning operations in South Texas with the No. 1 Port Isabel Irrigation Co. will maintain the Corpus Christi office for administration of drilling activity. The Port Isabel test will be drilled on an 8,500-foot contract. It is located about 15 miles northwest of the town of Port Isabel near the mouth of the Rio Grande River.

Passenger car sales in the United States during 1936 are estimated at 3,367,194 units by R. L. Polk & Co., the largest for any year, except 1929 when 3,880,206 cars were registered. It was 623,286 units, or 22.7 per cent above the 2,743,908 cars registered in 1935. Partial returns for December show 53.4 per cent over November and 36.7 per cent over December, 1935.

California Field Report

By L. P. STOCKMAN

SIX MORE WELLS EXPECTED IN EL SEGUNDO THIS MONTH

LOS ANGELES, Calif., Feb. 1.—Operators are making such fast footage in the El Segundo field of Los Angeles Basin that it appears probable six wells will be completed before the close of February. Drilling operations were slowed up early last week when public utilities found it necessary to restrict deliveries of natural gas, as the State Railroad Commission has ruled domestic consumers have a priority over manufacturing establishments. Restricted deliveries of natural gas forced several operators in the El Segundo field to suspend operations until standby plants were put in operation to augment the supply with manufactured gas. Operators proceeded to make up for lost time upon a resumption of work.

Ohio Oil Co. No. 2 Gough is scheduled to be the next completion in the El Segundo field as the bit in this hole is approximately 500 feet lower than the next deepest well. No. 2 Gough, in the extreme northern part of the field, is a direct easterly offset of Ohio Oil Co. No. 1 Gough. No. 2 Gough is not expected to result in substantial production due principally to its position structurally, but should extend the proven limits of the field several hundred feet north. At the present rate of development, No. 2 Gough should be followed into production by Richfield Oil Co. No. 2 El Segundo, Republic Petroleum Co. No. 3 El Segundo and Caminol Oil Co. No. 1 El Segundo. Republic Petroleum Co., discoverer of the El Segundo field, has completed two producing wells in this district and has three uncompleted drilling projects under way.

Wilmington

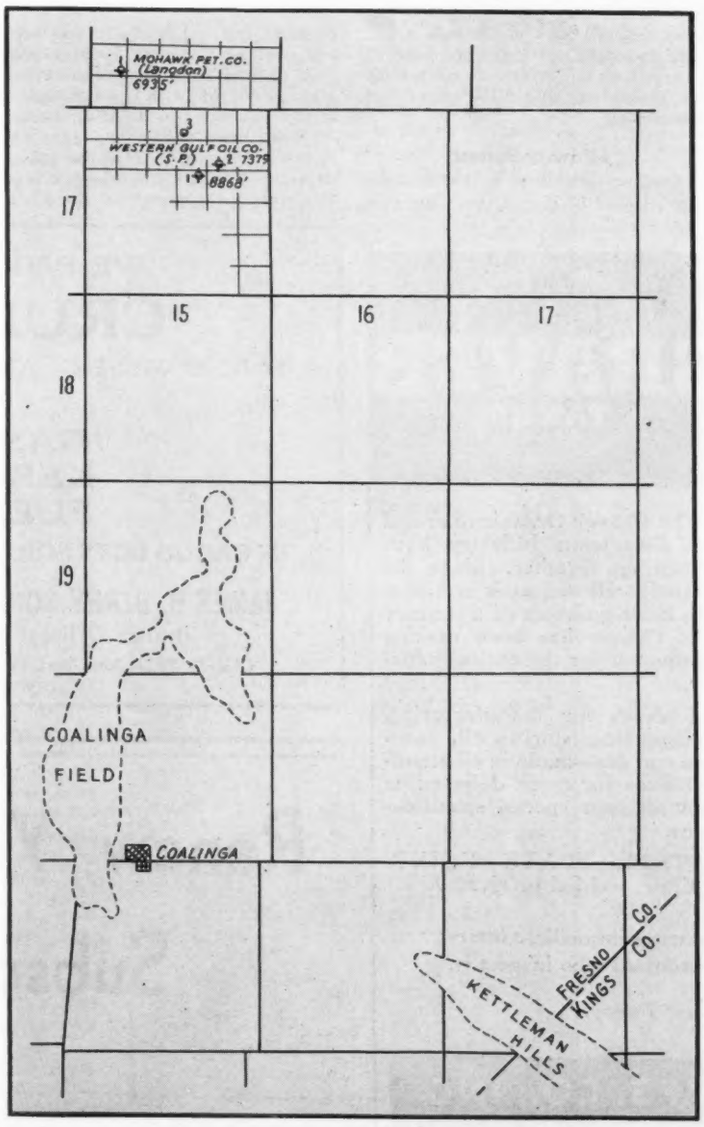
As expected the Wilmington district, located immediately adjacent to Los Angeles harbor, is showing an increase in drilling operations from week to week and within another fortnight should have more drilling projects under way than El Segundo. Wilmington and El Segundo are the most recent fields discovered in Los Angeles Basin and operators in both districts have undertaken aggressive development programs. The Wilmington field, in contrast with El Segundo, where the oil tests 27.4 degrees, produces crude oil varying in gravity between 14 and 21 degrees, depending upon the zone produced and location of the well structurally. In the El Segundo field production is obtained from a conglomeratic oil sand immediately overlying the basement schist at an average depth of approximately 7,400 feet. Wells in the Wilmington district can be finished from spud to completion in less than 30 days, as the second producing horizon, which has been found the most prolific, is topped a little below 3,000 feet.

General Petroleum Corp., discoverer of the Wilmington field, has two drilling wells under way and is building rig for No. 1 Flint and Nos. 2 and 4 on the Eubank property. George F. Getty, Inc., with one producing well to its credit and another potential producer getting under way, is expected to pursue an aggressive development program, as the company's initial producer has been holding up steadily for the past 10 days at 380 bbls. a day. Pacific Western Oil Co. and Bankline Oil Co. are also expected to continue aggressive exploitation. Royalty Service Corp. is starting a new well on the Community lease, on which it recently completed well No. 1 flowing 502 bbls. a day from 3,595 feet. No. 1 Wilmington of George F. Getty, Inc., already mentioned, showed an initial daily production of 398 bbls. from 3,580 feet under a natural flow. New wells being started in the Wilmington field include initial holes by Bankline Oil Co., Basin Petroleum Co., Crude Oil Drilling Co., Petroleum Marketing Corp., Selegna Oil Co. and the Union Pacific Railroad Co.

Santa Maria

Union Oil Co. completed an excellent producer in the Santa Maria Valley field, when No. 2 Mahoney, in section 24-10-34, was brought in flowing 4,225 bbls. of exceptionally clean 15.6 gravity oil a day, accompanied by 700,000 feet of natural gas. No. 2 Mahoney, which topped the Franciscan at 4,040 feet, was completed at 4,087 feet and finished with a 6⅝-inch liner including 1,057 feet of perforated and 3,999 feet of 3-inch tubing. Immediately upon completion of this well the crew was transferred to No. 2 Adam and the bit started making hole. N. A. Macrate put his No. 1 Fernandez on a preliminary production test a few days ago and it responded with an initial flow of 2,400 bbls. from 3,605 feet. The Franciscan was not encountered in this well and the flow was killed preparatory to deepening the hole. The Echo Oil Co. No. 1 in section 23-10-34, a recent completion at 3,429 feet, has sanded up and the company is washing out the hole with acid in an effort to stimulate production.

The Santa Maria Valley field has not begun to manifest itself from a production standpoint, as the field is still without an outlet. Each new completion is permitted to produce approximately 10,000 bbls. of crude oil before being shut in. The limited demand for this grade of crude oil in the immediate vicinity of the field precludes sustained production. It is believed probable that pipe line facilities will be provided within 90 days, by either Union Oil Co. or Tide Water Associated Oil Co. Before pipe line deliveries can be made it will be necessary to construct a pumping plant and adequate storage facilities.



Western Gulf Oil Co. has cored 50 feet of Domingine oil sand in No. 3 S. P., a wildcat located in the Cantua district, north of the Coalinga and Kettleman North Dome fields

Gato Ridge

After being held back for several years due to insufficient demand for relatively low-gravity oil and overproduction in other fields of the state, the Gato Ridge district of Santa Barbara County appears destined to undergo aggressive exploitation during 1937. The Petrol Corp., which concluded negotiations several months ago with the Golconda Petroleum Co. whereby the former acquired several hundred acres of potentially productive property, has just completed its initial test on the Tognazzini lease in section 9-8-32. Petrol's first well, completed at 2,480 feet and finished with an 8⅝-inch liner including 755 feet of 400 mesh screen, was brought in pumping 1,600 bbls. of 16.4 gravity oil a day. This company contemplates the drilling of several additional wells in the near future.

Barnsdall Oil Co., discoverer of the Gato Ridge field, has completed two excellent producers on the Tognazzini lease and has rigs up for two additional projects scheduled for early work. O. C. Field Gasoline Corp., which some time ago acquired a sub-

lease on acreage in section 4-8-32 from Continental Oil Co., is making preparations to resume drilling following the landing and cementing of 10¾-inch casing at 1,900 feet. The Stewart-Carter Oil Co. is delayed with No. 1 Wickenden, in section 4-8-32, by trouble with machinery. Benjamin A. Moyle has a rig up for a well to be drilled in section 4-8-32, but may await the outcome of drilling operations already under way by O. C. Field Gasoline Corp.

Ten Section-Greeley

Shell Oil Co. is expected to complete its third producing well in the Ten Section field of Kern County within the next few weeks, as No. 34 K.C.L., in section 29-30-26, is rotating ahead in an exceptionally good-looking oil sand at 8,368 feet. No. 78 K.C.L. in the same section has reached a depth of 7,187 feet and should be completed within the next 30 days. Shell's field department, by close coordination, has drilled these two wells with clock-wise precision and both are expected to be completed in much faster time than was required by the company's first two wells in this field.

Standard Oil Co., failing to develop production in the Stevens sand in the Ten Section field, has plugged back No. 1-9 K.C.L. to 8,204 feet and has 284 feet of 7-inch blank liner hung at 8,162 feet. It is the present intention to perforate this liner at points already selected in an effort to determine the potentiality of minor showings logged at this depth.

Northeast of Shell's discovery well Superior Oil Co. is nearing the 10,000-foot level in No. 8 K.C.L., located in section 11-30-26, but despite this depth the company has not yet logged any indications of unusual promise. Standard Oil Co. is making preparations to spud in three new wells in the Greeley field of Kern County within the next 15 days. The company spudded in No. 11-2 K.C.L. late in January and the hole is standing cemented with a string of 13⅜-inch casing landed at 1,028 feet. The company's discovery well in this field has been pinched back to 235 bbls. a day and under the restriction of a reduced bean shows a pressure of 1,050 pounds on the tubing and 2,100 pounds on the casing.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	January 21		January 14			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	70,808	10,115	70,808	.....
Gasoline	.....	.....	79,106	11,301	79,106	463,830
Kerosene	.....	.....	.....	.....	.....	152,499
Foreign exports:						
Crude oil	137,869	19,696	.....	.....	178,787	348,385
Fuel oil	585,211	83,602	507,385	72,484	1,166,503	822,888
Diesel and gas oil	292,398	41,771	48,366	6,909	666,788	203,646
Gasoline	78,140	11,163	180,755	25,822	270,169	421,482
Kerosene	112,962	16,137	22,960	3,280	135,922	21,935
Coastwise-domestic:						
Crude oil	213,342	30,477	134,211	19,173	412,302	431,966
Fuel oil	253,646	36,235	313,539	44,791	567,185	478,346
Diesel and gas oil	35,973	5,139	4,479	640	50,092	98,014
Gasoline	355,620	50,803	100,423	14,346	748,075	847,355
Kerosene	2,199	314	.....	.....	2,199	10,996

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	75,895	10,842	75,895	.....
Foreign exports:						
Crude oil	.....	.....	244,600	34,943	244,600	192,079
Fuel oil	.....	.....	.....	.....	.....	37,810
Diesel and gas oil	80,730	11,533	133,659	19,094	214,389	.....
Gasoline	164,259	23,466	81,983	11,712	246,242	105,198
Kerosene	14,707	2,101	3,229	461	17,936	.....
Lubricants	5,895	842	8,521	1,217	14,416	10,311
Coastwise-domestic:						
Fuel oil	84,437	12,062	152,698	21,814	358,821	472,044
Diesel and gas oil	.....	.....	18,912	2,702	58,124	18,972
Gasoline	38,174	5,453	59,614	8,516	296,502	147,841
Kerosene	.....	.....	.....	.....	3,367	13,283

Midway-Sunset

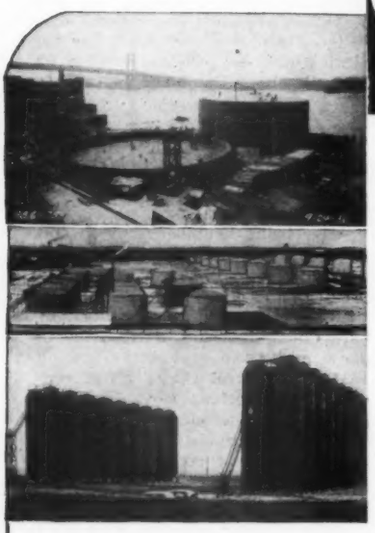
Drilling operations in the Midway-Sunset field of Kern County are still holding up and in view of new locations staked within the past week or 10 days, increased activity is expected. Robert McGray has completed his No. 1 well, in section 22-32-23, pumping 260 bbls. of 16.1 gravity oil a day from 2,201 feet and is running liner in No. 2 preparatory to an early production test. Well No. 1 was finished with an 8⅝-inch liner carrying 375 feet of perforated, which froze at 2,187 feet, while No. 2 has been bottomed at 2,435 feet and plugged back to 2,386 feet. Chanslor Canfield Midway Oil Co., with three strings of tools in operation in the Midway-Sunset field, has staked three additional locations for new wells to be drilled in section 21-32-23. Chanslor Canfield Midway Oil Co. completed No. 25-21, in section 21-32-23, pumping 270 bbls. of 18.6 gravity oil daily from 2,130 feet.

Standard Oil Co. has started preparations to drill four new wells in the Midway-Sunset field and location has been staked for No. 52-33-D, in section 33-32-24. In the Williams section of the field Union Oil Co. has finished drilling operations on No. 4 Williams at 2,122 feet and pumping equipment is being rigged up. This new well was finished with a 6⅝-inch liner carrying 150 feet of perforated and an excellent completion is looked for. In addition to putting the finishing touches on this potential producer the company has started drilling No. 6 Keene. The Gibson Oil Co. should have its No. 4 O'Brian in this field on production within the next few days. The crew is swabbing for production. Drilling operations were concluded at 3,065 feet and the hole finished with a 6⅝-inch liner including 153 feet of perforated. Honolulu Oil Corp. is making preparations to start two new wells in the Midway-Sunset field and equipment used to drill a test in the South Montebello field of Los Angeles Basin will be employed in the drilling of No. 26 in the Midway-Sunset field in section 14-32-24.

Kern River

In the Premier district of the Kern River field, Standard Oil Co. has completed No. 2-9, pumping 81 bbls. of 14.1 gravity oil and 75 bbls. of water a day. This well, in section 9-28-27, was carried down to 2,980 feet, but was plugged back to 2,866 feet before completion and the hole finished with 165 feet of 9-inch perforated liner.

(Continued on Page 76)



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Oklahoma Operations

By DAL DALRYMPLE

FITTS HUNTON LIME SECTOR MAY BE DEFINED NORTHEAST

The increase in crude oil prices was the big news of the week in Oklahoma, but it did not keep operators from watching several interesting field operations. Foremost among these was the Fitts field, where Hunton lime production appeared to be extended to the east and limited on the northeast.

E. H. Moore, Inc. No. 1 Sadler, SW NW SE section 23-2n-7, on the east edge of production, topped Hunton lime at 3,626 feet and found saturation to 3,742 feet, total depth. It had not been tested. It is due north of the same operator's No. 1 Deaner, a 2,400-bbl. Hunton lime producer.

Diagonally northwest of No. 1 Sadler, the J. Paul Getty No. 2 Masters, NE NE SW section 23-2n-7, looked like a Hunton lime producer early in the week, but had more of the earmarks of a water well at the week end. It topped Hunton lime at 3,714 feet and was bottomed at 3,855 feet. It was acidized and flowed at the rate of 60 bbls. of oil an hour. It was reacidized, and when opened at the week end, it flowed at the rate of 3 bbls. of oil an hour, with 98 per cent salt water. The tubing was being pulled preparatory to a swabbing test.

Oklahoma completions of the week included six Hunton lime producers and three producers from other formations in the Fitts field. Total completions in the state during the week included 27 oil wells, 6 gas wells and 10 dry holes. Among the completions was a wildcat pool opener in Lincoln County.

The state allowable production for February, as recommended by the Bureau of Mines, was set at 581,900 bbls. daily.

Pontotoc County

Completion of Hunton lime wells continued to be a feature of activity in the Fitts field, Pontotoc County, although wells also were completed as producers in other horizons.

Magnolia Petroleum Co. No. 28 Metropolitan Life, SE SW SE section 22-2-7, topped Hunton lime at 3,460 feet, Sylvan shale at 3,854 feet and was bottomed at 3,858 feet. It was acidized with 10,000 gallons, flowed 593 bbls. of oil gross in one hour and made potential of 4,046 bbls. Same company's No. 14 Simpson, SE SE NE section 29-2-7, made potential of 1,263 bbls. of oil after treating with 10,000 gallons of acid. It topped Hunton lime at 3,304 feet; Sylvan shale, 3,562 feet; total depth, 3,564 feet.

E. H. Moore and others No. 10 Akers, SE NW NE section 26-2-6, topped Hunton lime at 3,460 feet, found Sylvan shale at 3,750 feet and stopped at 3,755 feet, total depth. It was acidized with 5,000 gallons and 10,000 gallons and flowed 365 bbls. of oil gross in one hour, making potential of 4,832 bbls.

Amerada Petroleum Corp. No. 4 Woolley, NE SE SE section 21-2-7, flowed 34 bbls. of oil in 11 hours after drilling to 3,863 feet, total depth. It was treated with 18,000 gallons of acid and flowed 650 bbls. of oil gross in 50 minutes through casing. It then flowed 385 bbls. of oil net in two hours, through tubing, and made potential of 5,133 bbls. Production was from Hunton lime, topped at 3,514 feet; Sylvan shale, 3,859 feet.

Stahl Brothers No. 8 Dennis, NW SW SW section 21-2-7, topped Hunton lime at 3,615 feet; had Sylvan shale at 3,930 feet and was bottomed at 4,370 feet. After acidizing with 15,000 gallons, it flowed 1,250 bbls. of oil gross in nine hours, through tubing and casing, and made potential of 2,033 bbls.

H. L. Blackstock and others No. 3-A Moody, NW SW SW section 23-2-7, flowed 725 bbls. of oil through tubing in the first five hours after stopping at 3,883 feet, total depth. It then was acidized with 10,000 gallons and flowed 183 bbls., 126 bbls. and 121 bbls. in three hours, respectively, through tubing, gross production, and made potential of 3,096 bbls. Top of Hunton lime was 3,499 feet; Sylvan shale, 3,881 feet.

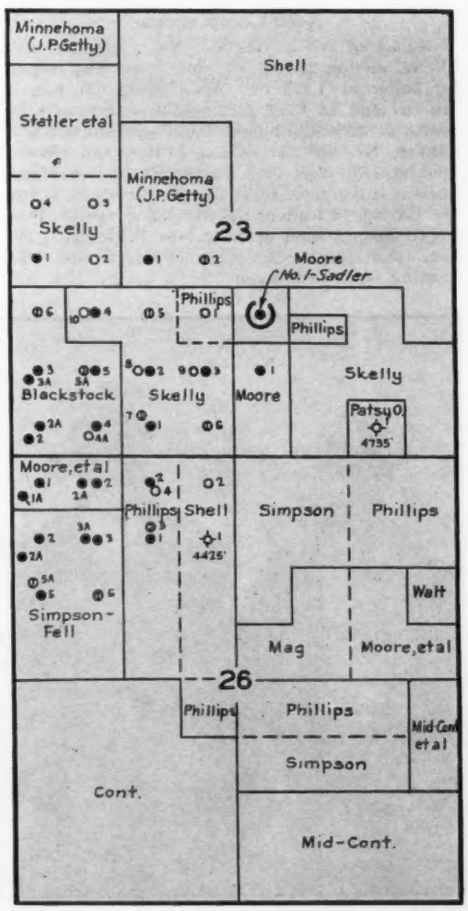
More Fitts Wells

Completed wells producing from other horizons at Fitts were:

Simpson-Fell Oil Co. No. 5 Westheimer, NW SW NW section 26-2-7, topped Viola lime at 3,779 feet; Bromide, 4,055 feet; McLish, 4,257 feet, total depth, 4,353 feet. Potential test failed and it was completed as a minimum well. At 4,353 feet, it was acidized and flowed 920 bbls. of oil net in 24 hours.

E. H. Moore and others No. 5-A Wirick, SW SW SE section 29-2-7, found Wilcox sand at 4,365 feet, was bottomed at 4,405 feet and made potential of 2,703 bbls. of oil. It topped Bromide at 3,840 feet; McLish, 4,040 feet; Dense, 4,285 feet.

J. E. Crosbie, Inc. No. 4 A. J. Harden, NW NE NE section 30-2-7, topped Viola lime at 3,988 feet; had first Bromide sand, the producing horizon, at 4,343 feet; total depth, 4,356 feet. It was acidized with 10,000 gallons and flowed 246 bbls. of oil gross through casing in three hours, making potential of 900 bbls.



Moore No. 1 Sadler, east end of the Fitts field, had saturated Hunton lime; but its northwest offset, Getty No. 2 Masters, had a hole nearly full of water.—(Mid-Continent Map Co., Tulsa)

Two wells were completed in the Jesse area. Sunray Oil Co. and others No. 1 Community Fox, SW SW NE SE section 2-1n-7, topped Viola lime at 4,158 feet; Bromide, 4,430 feet; had sand at 4,570 feet, and was bottomed at 4,582 feet. It plugged back to 4,575 feet, swabbed and flowed 240 bbls. of oil in 24 hours, and was completed for Viola lime potential of 558 bbls. of oil.

Continental Oil Co. No. 1 McCarty, SE NE NW section 12-1n-7, was acidized with 3,000 gallons and flowed 62 bbls. of oil in three hours, making potential of 112 bbls. It topped McLish at 4,535 feet; total depth, 4,754 feet.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending January 23, and for the preceding week, was as follows:

	Barrels	
	Jan. 30	Jan. 23
Allen	7,075	7,175
Burbank	7,750	7,500
South Burbank	15,500	15,300
Balance Osage	22,000	21,200
Blackwell district	4,950	4,925
Bristow-Slick	7,775	7,800
Chandler	3,575	3,525
Crescent	9,750	12,475
Cromwell	3,350	3,325
Cushing-Shamrock	10,200	10,300
Duncan district	3,875	3,875
Edmond	19,625	18,425
Fish	7,225	7,475
Fitts	82,100	80,600
Gray	1,350	1,350
Graham	4,750	4,725
Healdton	9,750	9,350
Hewitt	4,375	4,300
Holdenville	925	950
Keokuk	7,950	8,050
Konawa	2,000	1,725
Lucien	12,600	12,500
Marshall-Lovell	700	700
Oklahoma City	139,175	155,975
Olympic	13,975	14,050
Papoose	875	875
Polo	1,725	1,950
Sasakwa and townsite	2,925	3,050
Sholem-Alechem	3,250	3,125
Seminole:		
Bowlegs	10,875	11,250
Carr City	6,175	6,225
Earlsboro	6,225	6,475
South Earlsboro	750	750
East Earlsboro	7,825	8,200
Little River	11,075	11,250
East Little River	1,075	1,225
Maud	825	850
Mission	2,325	2,325
Seminole	9,475	9,875
East Seminole	3,850	4,100
Searight	4,775	5,000
Total Seminole	65,250	67,525
St. Louis-Pearson	21,925	22,275
Tatums	4,375	3,825
Tonkawa-Garber-Thomas	5,575	5,500
Wewoka	3,600	3,625
Yale-Jennings	3,975	4,050
Other pools	71,975	70,900
Total Oklahoma	587,750	604,275

Pontotoc First Reports

New work in Pontotoc County: E. H. Moore and others No. 7 Smith B, SW NE NE section 36-2-6, digging cellar; Amerada Petroleum Corp. No. 8 Woolley, NE NW SW section 22-2-7, cellar; J. E. Crosbie, Inc. No. 2-B Burris, C W half W half SE section 22-2-7, cellar; Sinclair Prairie Oil Co. No. 19 Woolley A, SE NW SW section 22-2-7, digging cellar; Skelly Oil Co. No. 3 Ingram, SE SW NW section 23-2-7, location; same company's No. 4 Ingram, SW SW NW section 23-2-7, location; Shell Petroleum Corp. No. 2 Bates, NE NE NW section 26-2-7, cellar; Loual Drilling Co. No. 4-A Harden, NE SW NW section 30-2-7, digging cellar;

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A. L. Bowles No. 1 fee, SE SE NW section 22-5-8, an old well deepening from 480 feet, drilling at 650 feet.

Continental Oil Co. No. 1 Helms, NW SE SE section 2-1n-7, shot with 20 quarts at 4,555-70 feet and swabbed 165 bbls. of oil gross and 16 bbls. water in 11 hours. It then was acidized with 8,000 gallons and a 226-bbl. load and swabbed 180 bbls. of oil gross in three hours. Fleetborn Oil Corp. No. 7 Morin, NE SW SE section 20-2-7, flowed 469 bbls. of oil gross in one hour after acid treatments with 4,000 and 10,000 gallons. It topped Bromide at 4,270 feet and was bottomed at 4,352 feet. Magnolia Petroleum Co. No. 1 Morin, SE NE SE section 20-2-7, flowed 359 bbls. of oil through casing and tubing in three and one-half hours after plugging back from 4,384 feet to 4,368 feet and acidizing with 10,000 gallons.

Okfuskee County

Operations in Okfuskee County were at low ebb the past week, due largely to inclement weather, and only three completions were reported.

J. A. Chapman No. 3 Williams, SW NW NW section 30-10-9, in the Olympic sector, had Senora sand at 1,754 feet and was bottomed at 1,797 feet. After shooting, it flowed 477 bbls. of oil through tubing in 24 hours.

Chapman & McFarlin No. 3 Williams, SW SE SW section 25-10-8, flowed 557 bbls. of oil through tubing in 24 hours after a shot. It had Senora sand at 1,722 feet total depth, 1,747 feet.

Louis Stekoll No. 8 Johnson, SW section 2-10-11, had pay at 1,669-78 feet, total depth, and produced 40 bbls. of oil daily.

First reports of new work in Okfuskee County were as follows: Kemrow Drilling Co. and others No. 1-A Simon, SE SE NW section 25-10-8, digging cellar; Stanolind Oil & Gas Co. No. 4 Bunner, SE NE NE section 25-10-8, drilling at 250 feet; same company's No. 5 Bunner, NE cor. section 25-10-8, location; J. F. Watson and others No. 1 Lindley, NE SE SE section 26-10-8, location; Floyd R. Hyer and others No. 1 Porter, SW SW SE section 4-13-10, cellar.

Near Completions

Stanolind Oil & Gas Co. No. 2 Bunner, SW SE NE section 25-10-8, Olympic area, was fishing for bailer at 1,825 feet, total depth. It topped Senora sand at 1,797 feet and was shot with 50 quarts at 1,798-1,812 feet. Same operator's No. 3 Bunner, NE SE NE section 25-10-8, had Senora sand at 1,781 feet and was rigging up standard tools at 1,798 feet, total depth. Blackwell Oil & Gas Co. No. 16 Dalton, NE SW NE section 36-10-8, topped Senora sand at 1,712 feet, drilled to 1,730 feet, total depth, shot with 30 quarts and was cleaning out. Earl Evans No. 3 Smith, NW NE NW section 36-10-8, was drilling plug after standardizing at 1,729 feet, total depth; top of Senora sand was 1,721 feet. Manahan Oil Co. No. 11 Dalton, rigged up standard tools at 1,717 feet, total depth, and was drilling plug. J. F. Hinckel and W. A. Delaney No. 1 Lewis, SE cor. section 7-10-9, topped Senora sand at 1,875 feet, was bottomed at 1,892 feet and was rigging up standard tools. Ark Royalty Co. No. 5 Fisher, NW NW SE section 18-10-9, was bailing; it topped Senora sand at 1,858 feet and stopped at 1,863 feet. Chapman & McFarlin No. 5 Yarbrough, SW NW NE section 18-10-9, topped Senora sand at 1,843 feet; total depth, 1,881 feet; shot with 60 quarts at 1,854-81 feet, and pumped 8 bbls. of oil and 56 bbls. of water in six hours. Same operators' No. 6 Yarbrough, SE NW NE section 18-10-9, flowed 189 bbls. of oil the first 24 hours and 176 bbls. the next 24 hours, from Senora sand topped at 1,841 feet; total depth, 1,882 feet.

Seminole County

No new producers were completed in Seminole County, but Amerada Petroleum Corp. and others No. 1 Yahola, NE NW NW section 36-10-7, an old well, was deepened and recompleted. Old total depth was 3,638 feet. It was deepened to 3,647 feet and flowed 1,108 bbls. of oil in 24 hours, with 6,700,000 feet of gas. Production was from Cromwell sand.

Champlin Refining Co. No. 2 Tewee, NE SE NE section 14-7-6, an old well, was deepened from 4,239 feet to Arbuckle lime at 4,908 feet, new total depth 5,165 feet, where water intruded. It was plugged back to 3,900 feet, casing was ripped, water rose 1,100 feet in the hole and it was abandoned.

New work in Seminole County: Texas Co. No. 7 Mayhue, NW NE NW section 14-9-6, an old well being deepened from 3,904 feet, drilling at 3,906 feet; same company's No. 3 Grisso, NE NW NW section 16-9-7, building rig; J. H. Hudson and others No. 1 Tanyan, SE SE SW section 32-10-7, wildcat, digging cellar; J. E. Crosbie and others No. 1 Hudson, NE NW NE section 35-10-7, cellar and pits; Sinclair Prairie Oil Co. No. 1 Rossanna, NW NW SW section 28-10-8, cellar and pits.

Field Reports

Vierson and others No. 8 Jones A, NW NE NW section 11-6-6, topped sand at 2,400 feet; total depth, 2,423 feet; was shot with 10 quarts at 2,397-2,402 feet, and flowed 99 bbls. of oil through casing the first day, 90 bbls. the second day and 100 bbls. the third day. Pure Oil Co. No. 7 Strothers, SW cor. section 26-9-6, an old well, was deepened from 4,020 feet to second Wilcox sand at 4,051 feet; new total depth, 4,165 feet; plugged back to 4,152 feet; shot and after clean-

This quartet was assembled at the Lacy plant of the Empire Oil & Refining Co., at Lima, Seminole County, Oklahoma. They are George W. Rogers, chief clerk at the plant; R. L. Poteet, assistant plant superintendent; L. L. Grubb, plant superintendent, and J. W. Wilson, natural gasoline district superintendent, Seminole, Okla.

ing out pumped 100 bbls. of oil in 42 hours. L. W. Prunty No. 4 Boring, NW NE SE section 17-9-7, was bottomed at 3,451 feet, flowed 164 bbls. in 48 hours, shot with 20 quarts and was cleaning out. Amerada Petroleum Corp. and others No. 1 Noble, SW SE SW section 25-10-7, had oil showing in cores at 3,617 to 3,635 feet, total depth, and was washing in. C. J. Wrightsman No. 2 May, SW cor. section 25-10-7, total depth 3,605 feet, perforated liner on bottom and flowed 118 bbls. of oil in three hours through tubing choke. Amerada Petroleum Corp. No. 2 Yahola, NW cor. section 36-10-7, topped Cromwell sand at 3,620 feet; total depth, 3,630 feet and flowed 354 bbls. of oil through casing in nine and one-half hours, with 3,500,000 feet of gas. Gulf Oil Corp. No. 1 Myrtle, C N half SW SE section 26-11-6, had a hole full of oil from Hunton lime at 4,115-17 feet, total depth, and was testing.

Osage County

Magnolia Petroleum Co. and Empire Oil & Refining Co. No. 5 Bonto, SE SW NW section 23-26-6, Osage County, had Burbank sand at 2,905-85 feet, drilled to 2,990 feet, total depth, was shot and pumped 225 bbls. of oil in 24 hours, completed.

Johnson Oil Refining Co. No. 17 Osage, SW NW SE section 30-21-9, topped Layton sand at 1,038 feet; Cleveland sand, 1,460 feet; Oswego lime, 1,688 feet; Prue sand, 1,810 feet; missed Bartlesville and Burgess sands; had Mississippi lime at 2,334-70 feet, total depth; plugged back to 1,490 feet and pumped 2 bbls. of oil and 25 bbls. of water per day, completed.

Indian Territory Illuminating Oil Co. No. 444 Osage, NE SW SE section 6-24-8, had sand at 1,095 feet, was bottomed at 1,114 feet and produced 1,600,000 feet of gas.

Coralena Oil Co. No. 9 Carroll, NW SE SW section 15-25-6, was an abandoned location.

Two new tests were reported in Osage County. Bay Oil Corp. and Ray Branstetter No. 1-A Osage, SW SW NE SW section 9-22-11, was a location. Bay Oil Corp. No. 2 Osage, SW SE NE SW section 25-24-7, was moving in tools.

Noble County

Phillips Petroleum Co. and Shell Petroleum Corp. No. 1 McCaughtry, SW NE NE section 21-23-2w, Billings pool, Noble County, flowed 444 bbls. of oil in six hours of potential test. In the last four hours it flowed 242 bbls., making potential of 1,452 bbls. of oil through tubing, completed. It topped Oswego lime at 3,940 feet; Wilcox sand, 4,261 feet; total depth, 4,295 feet.

Gulf Oil Corp. and others No. 4 Frederick, C NW SE section 28-20-2w, Lucien field, was moving in rotary tools.

Phillips Petroleum Co. and Shell Petroleum Corp. No. 1 Hackett, NW NE SE section 21-23-2w, Billings area, was drilling at 2,360 feet. Same operators' No. 5 McCaughtry, SE SW NE section 21-23-2w, was drilling at 3,606 feet. Tide Water Associated Oil Co. No. 2 Hackett, NW NW SE section 21-23-2w, was drilling at 2,500 feet. Shell Petroleum Corp. and others No. 1 Guthrie, C NW SW section 31-21-2w, North Lucien, had Layton sand at 4,159-64 feet and was preparing to core ahead.

Oklahoma County

Ohio Oil Co. No. 1 Johnson, SE cor. section 25-14-4w, Edmond field, Oklahoma County, flowed 147 bbls. of oil in four hours and made potential of 884 bbls. Top of Simpson zone was 6,483 feet; Chert, 6,505 feet; total depth, 6,680 feet, where water intruded. It was plugged back to 6,584 feet to complete.

The following new operations in Oklahoma County were reported: British American Oil Producing Co. No. 1 Parkway, section 27-12-3w, digging cellar and pits; Big Chief Drilling Co. and others No. 1 Fair Park, section 15-12-3w, Lot 6, Block 23, Park Place, digging cellar and pits.

Lincoln County

Summitt Drilling Co. No. 1 Eakers, NE NE SW section 35-15-2e, wildcat north of Wellston and southeast of Fallis, swabbed 200 bbls. of oil a day before acidizing. After treatment with 2,000 gallons of acid, it flowed 823 bbls. of oil in 19 hours and later, on completion test, flowed 408 bbls. of oil in 24 hours, with an estimated 2,000,000 feet of gas. Top of Hogshooter zone was 3,430 feet; Layton, 3,455 feet; Big Lime, 4,175 feet; Oswego, 4,260 feet; Skinner, 4,513 feet; Hunton, 4,846 feet; Sylvan, 4,956 feet; Viola, 5,048 feet; Simpson, 5,081 feet; first Wilcox, 5,129 feet; total depth, 5,140 feet. Production was from Simpson and Wilcox formations.

The only new work reported in Lincoln County was at Sun Oil Co. No. 1 Crawford, section 35-15-2e, building rig.

Skelly Oil Co. No. 1 Laughlin, C SE NW section 29-17-3e, Lincoln County wildcat, was at total depth of 1,800 feet and preparing for Schlumberger test. It topped sand at 1,444 feet and had a show of salt in cores from 1,444 feet to 1,453 feet. Fleetborn Oil Corp. and others No. 1 Turner, NW NW SE section 28-17-5e, wildcat, was running rods after flowing at the rate of 25 bbls. of oil daily through tubing at 3,990 feet.

Garvin County

Two wells were completed in the Garvin County sector of the Tussy field, one as a producer and one as a failure. Cox & Hamon No. 1 Davis, SE NE SE section 32-1n-3w, had sand and shale at 2,505-23 feet; oil sand at 2,523-38 feet; broken oil sand at 2,558-74 feet; shale and sand at 2,585-2,652 feet; total depth, 2,730 feet. It pumped 60 bbls. of oil in 24 hours.

Winkler & McQueen No. 2 Perkins, NE NW SE section 32-1n-3w, had several lime, shale and broken sand horizons, sand at 2,722-29 feet. It was dry and abandoned in shale at 2,810 feet, total depth.

Ellison & Hammond No. 1 Selby, C SE NW section 24-2n-3w, Garvin County wildcat, was dry and abandoned at 6,773 feet, total depth. Cores at 6,385-92 feet tasted salty. A slight showing of gas was found at 6,380-85 feet.

Cox & Hamon No. 2 Davis, SW NE SE section 32-1n-3w, total depth 2,789 feet, swabbed into the slush pits but no gauge was taken. It was being rigged up to pump. Skelly Oil Co. No. 1 T. F. Gross, SE NE SW section 32-1n-3w, swabbed 8 bbls. of oil in four hours and had 800 feet of oil in the hole. It was estimated good for 25 bbls. of oil daily. Total depth was 2,410 feet.

Pottawatomie County

Producers, Inc. No. 3 Cardwell, NE SW NW section 15-7-4, St. Louis district, Pottawatomie County, topped Viola lime at 4,078 feet; Dense, 4,155 feet; total depth, 4,197 feet; plugged back to 4,196 feet; pumped 200 bbls. of oil and 600 bbls. of water in 24 hours; later, pumped 125 bbls. of oil and 600 bbls. of water in 24 hours. It was the only Pottawatomie County completion.

Payne County

Jock Chamberlain and others No. 1-A Taylor, SE NE SE section 22-18-3e, Mehan area, Payne County, had sand at 1,740-60 feet and was abandoned.

Pawnee County

J. L. Reynolds No. 13 Hamilton, NW SW NE section 24-20-8e, Pawnee County, had Layton sand at 1,143-52 feet, and was completed at 1,154 feet, total depth. It pumped 2 bbls. of oil and 3 bbls. of water daily.

O. O. Mittendorf and others No. 1 Wittick, NE SE NE section 32-20-5, the only new Pawnee County operation, was a cellar.

Creek County

Klingensmith and others No. 4-A Gilcrease, SE cor. section 33-17-12, had sand at 2,284-92 feet, total depth, and pumped 70 bbls. of oil daily.

Sinclair Prairie Oil Co. No. 9 Jones, C SE NW section 4-17-7, Cushing-Drumright area, Creek County, was shot with 70 quarts at 2,612-59 feet, pumped 140 bbls. of oil in 24 hours and was completed. It had Wheeler sand at 2,121-86 feet; Bartlesville sand, 2,545-2,659 feet; total depth, 2,661 feet; plugged back to 2,659 feet. Same company's No. 7 Jones, SW NE NW section 4-17-7, an old well, was deepened from 2,595 feet to 2,600 feet, pumped 7 bbls. of oil daily and was recompleted. It had Bartlesville sand at 2,487-2,596 feet. Same company's No. 19 Ella Jones, NW SW NW section 3-17-7, an old well, was deepened from 2,666 feet to 2,722 feet in Simpson horizon and

(Continued on Page 78)

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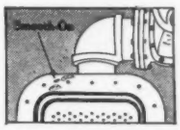
TYPICAL AWKWARD REPAIRS

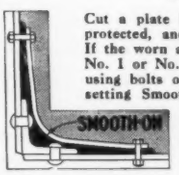
that are easy with Smooth-On

Corroded or worn flanges

Fill the depressions with a stiff putty of Smooth-On No. 1, and smooth to a true surface. When hard the joint is ready for service.



Strengthening worn or corroded surfaces of tanks or shells



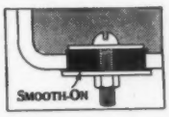
Cut a plate large enough to cover the area to be protected, and shape it to conform to the surface. If the worn area is small, cover it with Smooth-On No. 1 or No. 2 and seat plate while cement is soft, using bolts or screws to hold in place. The slow-setting Smooth-On No. 2 is easier to use and is best for water tanks.

At large areas, build up corroded surface to true level with Smooth-On No. 1. Allow to harden. Cover surface with a thin coat of Smooth-On No. 3 (very slow setting) and bolt plate into place.

Small holes and corroded spots in tanks

For a deeply corroded spot: drill a hole through the metal to take a bolt. Apply washers large enough to cover area of corrosion as shown and fill between with Smooth-On No. 1. For slightly corroded spots, clean and fill with Smooth-On No. 6.

Sealing circular openings, tubes or pipe connections



Circular openings in shells, heaters or radiators are sealed as shown. Two washers and a bolt are needed. One washer should be just small enough to go through the hole. The other washer is larger than the hole. Assemble the plug, pack with a stiff putty of Smooth-On No. 1 and then push into the opening. Hold end of bolt with pliers and tighten nut to spread out the Smooth-On to fill the hole.

To seal a split tube, insert a Smooth-On plug in both ends. If added strength to resist *internal* pressure is required, a through rod from one plug to the other and threaded at the ends may be used instead of separate bolts.

These repairs and the many others explained and illustrated with diagrams in the Smooth-On Handbook are all simple, efficient and inexpensive.

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DEPARTMENT OF GEOGRAPHY

North Louisiana, Arkansas

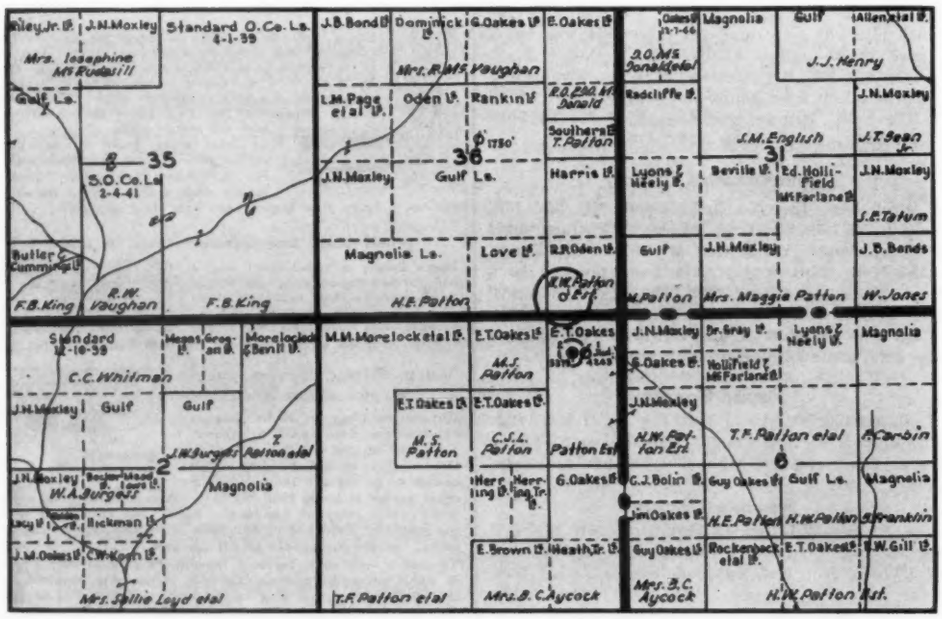
By MITCHELL TUCKER

ALL-TIME PEAK IS ATTAINED IN PRODUCTION AT RODESSA

SHREVEPORT, La., Feb. 1.—The Rodessa field passed the 100,000-bbl.-a-day mark last week, and established an all-time peak of 105,270 bbls., 65,310 bbls. from the Louisiana side and 39,960 from the Texas side.

The crude oil price rise announced by Standard Oil Co. of Louisiana on January 28 was made effective throughout all the Arkansas-Louisiana territory. Smackover and Rodessa crude was raised 15 cents, and Caddo, Homer, Haynesville, Sabine, DeSoto, Bunkie, Sarepta, Carterville, El Dorado and Garland City fields, 12 cents.

Arkansas developments were featured by the showing of oil and gas in Phillips Petroleum Co. No. 1 Rose, a temporarily abandoned test deepened for thorough exploration of the Permian lime zone at Snow Hill on the northeastern flank of Smackover. Also the new Texarkana field became a reality as C. V. Lenz installed pumping equipment at his No. 7 Dale, center section 24-15-26, which pumped about 32 bbls. the first hour on initial test.



Ray Oden No. 1 H. W. Patton, SE SE section 36-21-5w, north offset of E. T. Oakes and others recent discovery well in the Lisbon field, Claiborne Parish, Louisiana, is a location. Other locations are expected soon.—(Walter E. Wylie, Maps, Shreveport)

The making up of back allowable was responsible for the new daily peak production at Rodessa. Many wells were underproduced while the original order fixing well allowables was being prepared during the early part of January, and those wells now are overproducing until back allowed production is obtained.

The new order fixing February daily allowables for the Louisiana side of the field reallocates all wells so that the entire field will conform to the 50,000-bbl. figure given the district for February. This represents about a 19 per cent decrease from the January allowed figure of 62,500 bbls. daily.

The area allotted to oil wells on the Louisiana side of the field is now 5,781.1 acres, with an acreage factor of 5.7083 bbls. an acre. The bottom-hole pressure factor is 0.0734 bbl. per pound pressure.

Standard Oil of Louisiana is rigging up for the drilling of its No. 1 Emma J. Parker, NE SE NW section 9-23-16, which will be approximately midway between outpost production in the extreme southeast corner of section 9 and the recently completed J. Edward Jones No. 1 Sharp, about three-quarters of a mile northward, which is thought to be on a separate structure created by parallel faulting. Results of the Parker test should set at rest the question of whether or not the nosing out of the Rodessa structure at this point, with apparent parallel faulting, constitutes a separate structure from the main field.

Marion County, Texas

Attention is centered upon the testing of Holcomb & Thomason No. 1 Lizzie Henderson, R. Bennington Survey, possible 14-mile extension from Rodessa production. This well is now bottomed at 6,405 feet in black shale, after drilling the entire Hill, Gloyd and Dees-Young section and the Upper Pettitt, and finding only gas and distillate showings in the Gloyd. Casing has been set at 6,088 feet and operators plan to perforate and test in the Gloyd from 5,958 to 5,990 feet.

Arkansas-Louisiana Gas Co. No. 1 Ford, Charles Grayson Survey, near Lodi, topped the anhydrite at 5,322 feet and is drilling below 5,590 feet as a possible 7-mile extension to Rodessa production into Marion County.

February 4 has been set by the Texas Railway Commission for hearing on application of the Jefferson & Northwestern Railroad for permits to drill 10 wells along the right of way north of Jefferson and just east of Holcomb & Thomason's No. 1 Henderson. Each of the tests would be located on .83 of an acre and would be exceptions to state-wide spacing rule No. 37.

Rodessa Completions

Phillips Petroleum Co. No. 3 McDonald, NE quarter section 17-23-15, flowed 102 bbls. oil in 24 hours through 13/64-inch tubing choke, total depth 6,123 feet.

Standard Oil No. 1 J. R. Hardin, section 16-23-16, flowed 72 bbls. hourly on initial test through 38/64-inch tubing choke, total depth 6,004 feet.

United Gas Co. No. 5 fee No. 574, SW quarter section 16-23-16, flowed 37 bbls. hourly through three-eighths inch tubing choke, total depth 5,988 feet.

United Gas Co. No. 6 Brewer Unit, NW quarter section 21-23-16, flowed 32 bbls. in six hours on initial test through quarter-inch tubing choke, total depth 6,005 feet.

United Gas Co. No. 3 W. M. Mitchell, NE quarter section 20-23-16, flowed 26 bbls. hourly through three-eighths inch tubing choke, total depth 5,930 feet.

American Liberty No. 5 J. Wiley, Davenport Survey, Cass County, Texas, flowed 319 bbls. daily through one-quarter inch tubing choke, total depth 5,987 feet.

Magnolia Petroleum Co. No. 6 L. Haywood, Evans Survey, flowed 10 bbls. hourly through one-quarter inch tubing choke, saturated sand 5,975-91, total depth 6,022 feet.

Magnolia Petroleum Co. No. 1 Lewis & Wilks, A. Archer Survey, flowed 257 bbls. in 21 hours through one-quarter inch tubing choke, total depth 6,102 feet.

Magnolia Petroleum Co. No. 3 H. F. Walker, Wilson Robinson Survey, flowed 12 bbls. hourly through three-sixteenths inch tubing choke, total depth 6,060 feet.

Magnolia Petroleum Co. No. 4 H. F. Walker, Wilson Robinson Survey, flowed 390 bbls. in 15 hours through one-quarter inch tubing choke, total depth 6,010 feet.

Magnolia Petroleum Co. No. 5 H. F. Walker, Wilson Robinson Survey, flowed 480 bbls. in 24 hours, total depth 6,009 feet.

Ohio Oil Co. No. 5 R. P. Willis, SFIW A-1,263 Survey, flowed 556 bbls. in 24 hours, total depth 6,008 feet.

Phillips Petroleum Co. No. 1 Chew, Robert Trammel Survey, flowed 19 bbls. hourly through three-sixteenths inch tubing choke, total depth 6,135 feet.

Phillips Petroleum No. 4 Farrier, William R. Myers Survey, flowed 404 bbls. in 24 hours through one-quarter inch tubing choke, total depth 6,116 feet.

Texas Co. No. 3 J. B. McLeod, W. A. Elliott Survey, flowed 1,280 bbls. in 24 hours, saturation 6,042-74 feet, total depth 6,078 feet.

Bossier Parish

Arkansas-Louisiana Gas Co. No. 1 P. Potter, SW quarter of section 8-17-11, northeast flank of Sligo gas field, was completed in the Lower Glen Rose, total depth 4,295 feet, as a 25,302,880-foot gasser, and has been tied into that company's recently completed gasoline plant.

Arkansas-Louisiana Gas Co. No. 1 W. H. Davis, NW NE NW section 8-17-11, three-quarters of a mile due north of the Potter gas well on the northeast flank of Sligo, topped the porous Petitt sand at 5,165 feet and drilled and cored oil sand at 5,172-86 feet. Casing was cemented at 5,144 feet and operators are preparing to test.

Claiborne Parish

Ray Oden, of Shreveport, has staked location for a north offset to E. T. Oakes and others recent oil discovery at Lisbon, to be known as Pat-

ton No. 1, SE SE of section 36-21-5. Other locations are expected here soon.

Several large lease and royalty purchases have been made recently around this new discovery, and the Max Hirsch No. 1 C. O. Ferguson, SW corner of section 29-22-6w, which is now drilling below 5,000 feet.

Estimated Daily Production

Estimated daily gross production all companies week ending January 29:

NORTH LOUISIANA

	Bbls.
Bellevue	725
Caddo light	3,955
Caddo heavy	2,550
Converse	850
Cotton Valley heavy	240
Cotton Valley light	535
DeSoto and Red River	1,360
Elm Grove	340
Haynesville	3,350
Holly	140
Homer	2,550
Pleasant Hill	140
Rodessa	65,310
Sarepta-Carterville	425
Sligo	355
Urania	2,740
Zwolle	810
Total	86,375

SOUTH ARKANSAS

Champagnolle	1,925
El Dorado	2,020
Lisbon	280
Miller County	180
Nevada	775
Smackover light	2,025
Smackover heavy	13,495
Stephens	590
Troy	200
Urbana	1,555
Total	23,045

Texas side of Rodessa field—39,960 bbls. daily.

Caddo Parish

Stanolind Oil & Gas Co. No. 8 Christain, SE NW quarter section 27-21-15, flowed 10 bbls. daily after acidizing, total depth 1,612 feet, for routine completion at Pine Island.

Interstate Drilling Co. No. 1 E. Smith, SW SE SW section 35-21-15, acidized at total depth 1,628 feet, but sand was found dry and hole has been abandoned.

Shreveport Oil Corp. has temporarily abandoned No. 1-D Muslow, SE quarter of section 5-20-15, deep test in center of Caddo field at total depth of 4,743 feet.

Leasing activity has been rather active around the shallow Hosston area in Township 22, Range 15, during recent weeks, stimulated by growing belief in deeper possibilities in this structure. The Stanolind, Shell and H. L. Hunt companies are prominent leasers here.

Caldwell Parish

G. W. Zeigen and others No. 8 Louisiana Central Lumber Co., SW quarter section 4-14-2e, wildcat test, topped the Wilcox at 1,280 feet, but at 1,765 feet no showings of oil or gas had been obtained and test has been abandoned.

DeSoto Parish

Vaughn Production Co. No. 1 Sample, SW NE SE section 24-11-14, Lower Glen Rose test, has been shut down at contract depth of 5,503 feet, and it is expected it will be abandoned at this depth. Only salt water was found in the porous beds below anhydrite.

Grant Parish

Cane River Production Co. No. 1 Swope, SW NW section 17-9-1e, southeast flank test of Urania field, installed pumping equipment at total depth of 1,600 feet, but failed to make a commercial producer and will be abandoned at this depth.

Morehouse and Union Parishes

S. D. Hunter No. 11 Allison, NW quarter section 47-20-4e, Monroe gas field, gauged 1,000,000 feet, 555 pounds rock pressure, total depth 2,215 feet. Interstate Natural No. 16 Grayson, SE quarter section 20-21-4e, gauged 13,000,000 feet, 885 pounds rock pressure, total depth 2,108 feet.

Webster Parish

Magnolia Petroleum Co. No. 5 Ira Cox, SE quarter section 23-21-10, is the center of attention in deep exploration at Cotton Valley. After topping Lower Marine beds of the Travis Peak at 7,585 feet the first sand was drilled from 7,997 to 8,014 feet with gas and distillate showings. Drilling was continued and the Bodcaw sand topped at 8,088 feet, and gas and distillate showings were obtained from 8,088-8,125 feet. Drilling was continued for a thorough test of the section, and last week gas and distillate showings again were logged from 8,465-76 and 8,516-31 feet, which correspond closely to those indicated on Ohio Oil Co.'s discovery well completed last summer. Drilling and coring are now being carried on below 8,550 feet.

ARKANSAS

Miller County

The Texarkana field, about 10 miles due east of that city, seemed a reality last week when C. V. Lenz completed installation of pumping equipment at his No. 7 Dale and began pumping at the rate of 32 bbls. an hour. The production rate settled to about 10 bbls. hourly after first 24 hours of pumping. Production is from the Lower Glen Rose series, drilled from 4,210 to 4,216 feet, where sand tested 18.5 per cent porosity. Gravity of oil is about 46 degrees A.P.I., and is being produced at a temperature of 72° F.

River Leevy Oil Co. No. 1 Dean, NW SE of the same section, apparently missed the 4,210-foot producing level, and last week cored porous lime from 4,404 to 4,420 feet without showings. Coring is being continued below this depth.

Nevada County

Benedum & Trees No. 1 Block, NE NE SE section 9-14-20, Trinity test of the recently discovered Troy field, topped the Travis Peak at 2,680 feet, but at 3,685 feet encountered a fishing job and has been unsuccessful in recovering 14 thribles of drill pipe and bit.

Ouachita County

Arkansas operators turned attention to further

"HI-SPEED" New Ideal Pipe Cleaning Machine on Job in Oklahoma

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testing of Permian beds at Snow Hills, on the northeastern flank of the Smackover field, as Phillips Petroleum Co. reported showings of oil and gas in its W. Rose, SW NE SE section 27-15-15, a temporarily abandoned well now being drilled deeper. After being shut down several months at total depth of 4,819 feet, operations were resumed. The well was cored and drilled to 4,960 feet where showings of oil and gas were obtained. Schlumberger was run and decision made to cement 7-inch, which was landed at 5,957 feet. Operators plan to perforate and test before drilling ahead.

Five wells are now producing from the Snow Hill sector of Smackover, as follows: Lion Oil Co. No. 1 Reynolds, 60 bbls. oil and 1,125 bbls. water, with 2,576,000 feet of gas daily; Standard Oil Co. of Louisiana No. 3-B Reynolds, 20 bbls. oil, 7 bbls. water and 4,500,000 feet of gas; Phillips Petroleum Co. No. 1 Arnold, 34 bbls. oil, 7 bbls. water and 1,739,000 feet of gas; same company's No. 1 Harris, 7 bbls. oil, 35 bbls. water, 1,629,000 feet of gas; same company's No. 1 Reynolds, 198 bbls. oil and 316 bbls. of water in nine and one-half hours.

Union County

McCresien Oil Co. No. 4 L. Atkins, SE NW NE section 3-18-16, was completed on the pump, making 50 bbls. daily with 20 per cent salt water, at total depth of 3,563 feet.

Kansas Fields

(Continued from Page 58)

lime at 2,075-2,242 feet; topped lime at 2,775 feet and was dry and abandoned at 3,008 feet, total depth.

Empire Oil & Refining Co. No. 17 Lathrap, SE SE NW section 17-23-4, a location, was the only new operation reported in Butler County.

Greenwood County

R. G. Jennings No. 9 J. Greenwood, SE NW SE section 33-22-11, was the only completion in Greenwood County. It had sand at 1,900-1,930 feet; total depth, 1,932 feet; was shot and pumped 5 bbls. of oil in 24 hours.

Woodson County

Two wells were completed in Woodson County. Ward McGinnis No. 1 Weidie, NE NE SE section 31-23-15, had pay at 1,566-77 feet, total depth, acidized with 3,000 gallons and pumped 30 bbls. of oil per day.

Ross & Marshall No. 1 Bresner, SW SW SE section 6-26-15, wildcat, topped sand at 1,334 feet; had Mississippi lime at 1,497-1,523 feet, total depth, with a hole full of water, and it was abandoned.

One new operation was reported in Woodson County. Oko No. 1 Weide, NW NW SW section 32-23-15, was rigging up machine.

Elk County

Diller Oil & Gas Co. No. 1-A Hull, NE NE SE section 26-31-10, Elk County, topped lime at 1,656 feet; had Siliceous lime at 2,280 feet; found pay at 2,282-83 feet, total depth, and pumped 50 bbls. of oil in 24 hours, completed.

Chautauqua County

Sagamore Oil Co. No. 1 Kingston, NE NE NW section 17-32-10, Chautauqua County wildcat, topped Kansas City lime at 1,437 feet; found gas pay at 1,438-39 feet, total depth, produced 4,000,000 feet of gas daily, with 530 pounds rock pressure, and was completed.

Sedgwick County

Shell Petroleum Corp. No. 1 Brown, section 15-26-2e, an old Sedgwick County well, was deepened from 3,219 feet to 3,905 feet and recompleted as a water disposal well.

Haskell County

Helmerich & Payne No. 1 Meredith, C SW section 10-30-33w, Haskell County wildcat, produced 500,000 feet of gas at 2,650 feet, but was temporarily abandoned at 2,800 feet, total depth.

Rush County

Schermerhorn Oil Co. No. 1 Mohr, C NW section 11-18-16w, an old Rush County well, was deepened from 3,508 feet, had sand at 3,509 feet and was recompleted at 3,526 feet, total depth. It produced 27,000,000 feet of gas.

Other First Reports

In McPherson County, Smith and others No. 1 Larson, NW NW SW section 35-18-5w, wildcat, was moving in material.

In Coffey County, Saco Oil Co. No. 2 Scott, NW SW NW section 13-23-14, and No. 3 Scott, NE SW NW section 13-23-14, were rigging up machines.

In Cowley County, Lloyd, Frost & Study No. 4 McKinley A. SW SW NE section 33-31-3e, was drilling at 555 feet; Gulf Oil Corp. No. 1 Cairns, NW NW SW section 21-32-5e, was building rig; Sinclair Prairie Oil Co. No. 1 Collinson, SE NW SE section 5-34-3e, was moving in material.

In Barber County, Barbara Oil Co. No. 1 Rogers, C E half SE section 23-33-13w, was a rotary rig.

California Fields

(Continued from Page 70)

Previous to the completion of this well, Standard spudded in No. 3-9 and staked location for No. 4-9. In section 8-28-27, Honolulu Oil Corp. is rigging up pumping equipment on No. 88 and is rigging up rotary drilling equipment in No. 48 preparatory to an early spud. M. H. Whittier Co. expects to have No. 3 Cauley on production within the next few days. Pumping equipment has been installed. This potential producer, in section 16-28-27, is bottomed at 2,848 feet and the hole was completed with 132 feet of 6⅝-inch liner, including 99 feet of perforated.

Out on the west front of the Kern River field, National Oil Co. has completed Nos. 3 and 4 on the Universal property in section 11-28-27. The former, bottomed at 1,986 feet, was brought in pumping 144 bbls. of relatively clean 14.6 gravity oil a day, while the latter was brought in pumping 170 bbls. of similar quality from 1,945 feet after the hole had been finished with 125 feet of 6⅝-inch perforated liner.

Republic Petroleum Corp. cemented a string of 8⅝-inch casing in No. 16 Strassburger at 1,940 feet and tentative plans call for a production test within the next week. If commercial production is developed it will extend the productive limits of the Strassburger lease and may give the company six new locations. Development work indicates the probability that this third line of wells is reasonably close to the edge of commercial production and consequently the production test to be made on this well will be watched with interest. In the older section of the Kern River field, Thomas McManus recently spudded in his well No. 2, in section 2-29-28, and an early completion is expected as these shallow wells are finished at a depth of approximately 400 feet.

Ventura-Newhall

In the Newhall district, immediately adjacent to the line between Ventura and Los Angeles counties, Barnsdall Oil Co. is expected to proceed soon with a production test on a promising wildcat, No. 1 San Francisco, in section 26-3-17. This well has 55 feet of Miocene oil sand and shows every evidence of being the discovery well in a new field. The company has approximately 4,200 acres under lease and the well was drilled on a site selected after extensive seismograph work. In the Ventura Avenue field of Ventura County, Associated Oil Co. No. 12 McGonigle is showing a slight decline in production, but since installation of a compressor the drop appears to have been arrested. This well, in the extreme eastern end of the Ventura Avenue structure, was completed at 10,569 feet. The Ventura Avenue field has in excess of 20,000 feet of Pliocene and Miocene rocks and it is assumed producing wells will be completed in this field at depths ranging from 12,000 to 15,000 feet. With the 10,000-foot producer already a reality, the 12,000-foot level is within reach of present equipment.

Padre Canyon

In the Padre Canyon field of Ventura County, General Petroleum Corp. has completed drilling operations on No. 1 Padre, which has been redrilled and deepened to 5,403 feet and the hole finished with a 8⅝-inch liner, including 117 feet of perforated, cemented through perforations at 5,280 feet. Swabbing operations have not yet produced satisfactory results as the well shows little oil and apparently does not have sufficient gas to follow through. Chanslor Canfield Midway Oil Co. and Continental Oil Co. are grading locations for two new wells in this field, but it may be another 10 days before rig construction gets under way owing to the rough topography. The former's No. 2 Oakgrove is rotating ahead at 6,025 feet.

Round Mountain-Fruitvale

Shell Oil Co. completed No. 12 Freeman in the Round Mountain field of Kern County and should have No. 17 Caldwell ready for a production test in a few days, as drilling operations have been completed. No. 12 Freeman, bottomed at 1,830 feet, was brought in pumping 335 bbls. of clean 15.6 gravity oil a day. California Western Oil Co. is rigging up rotary drilling equipment for well No. 22 to be drilled in this field in section 7-28-29 and an early spud is expected. In the Fruitvale field of Kern County, Western Gulf Oil Co. No. 24-B on Kern County Land Co. property in section 22-29-27 is flowing 360 bbls. of 22.1 gravity oil cutting 7 per cent. This new well was completed at 3,985 feet and finished with a 4¾-inch liner including 214 feet of perforated. This company's No. 1 Galtes in section 14-29-27 has taken on a rather doubtful aspect at 3,505 feet. Meridian Oil Co. is making preparations to drill two new wells in the Fruitvale and may drill another on the Turner lease.

Kettleman Hills

In the Kettleman North dome field, Kenda has completed No. 47-2-P in section 2-22-17 and this new producer was brought in flowing 364 bbls. of 57.4 gravity oil and 18,500,000 feet of natural gas a day. Production showed a rather high cut upon completion, but may clean up after the well has been on production for a few days. No. 47-2-P was completed in the upper or Elliott high-pressure sand at 7,608 feet and was finished with a 4¾-inch liner carrying 515 feet of perforated. In the Kettleman Middle dome field, Standard Oil Co. has temporarily suspended drilling operations on No. 46-19-V in section 19-23-19, due to inability to develop commercial production at 7,962 feet. The interval which failed to produce was between 7,752 and the bottom at 7,962 feet.

Mount Poso-Mountain View

In the Mount Poso field of Kern County, Petroleum Securities brought in No. 6 Gardiner in section 26-27-28 pumping 122 bbls. of relatively clean 15.7 gravity oil daily from 1,564 feet after the hole had been finished with a 6⅝-inch liner including 41 feet of perforated. Drilling operations in this field have shown a decline, although the general area is still rather active as a number of operators have been attempting to extend the proven limits of fields.

In the Mountain View field Shell Oil Co. has recompleted No. 2 Bahrenburg after redrilling and deepening the hole to 5,937 feet, and the well was returned to production pumping 145 bbls. of 32.1 gravity oil daily. Mohawk Petroleum's test in the Mountain View field has reached a depth of 8,600 feet without having found any unusual showings.

Richfield

Standard Oil Co. has recompleted No. 2-11 Kraemer after redrilling and deepening the hole to 4,710 feet and this well was returned to production pumping 201 bbls. of 21.8 gravity oil cutting 10 per cent. Union Oil Co. No. 40 Chapman, finished last week pumping 100 bbls. a day, has built up to 240 bbls. from 3,494 feet. In the Torrance field of Los Angeles Basin Keystone Oil Co. has completed No. 1 Lupin pumping 139 bbls. of 15.4 gravity oil a day from 3,400 feet. At Huntington Beach, Ensign Oil Co. recompleted No. 2 H. B. pumping 163 bbls. of 23.1 gravity oil a day after redrilling and deepening the hole to 3,975 feet. Reconditioning work has been started in the Huntington Beach field.

West and North Texas

By L. E. BREDBERG

THIRD WEST TEXAS FIELD OF YEAR IS OPENED BY SINCLAIR

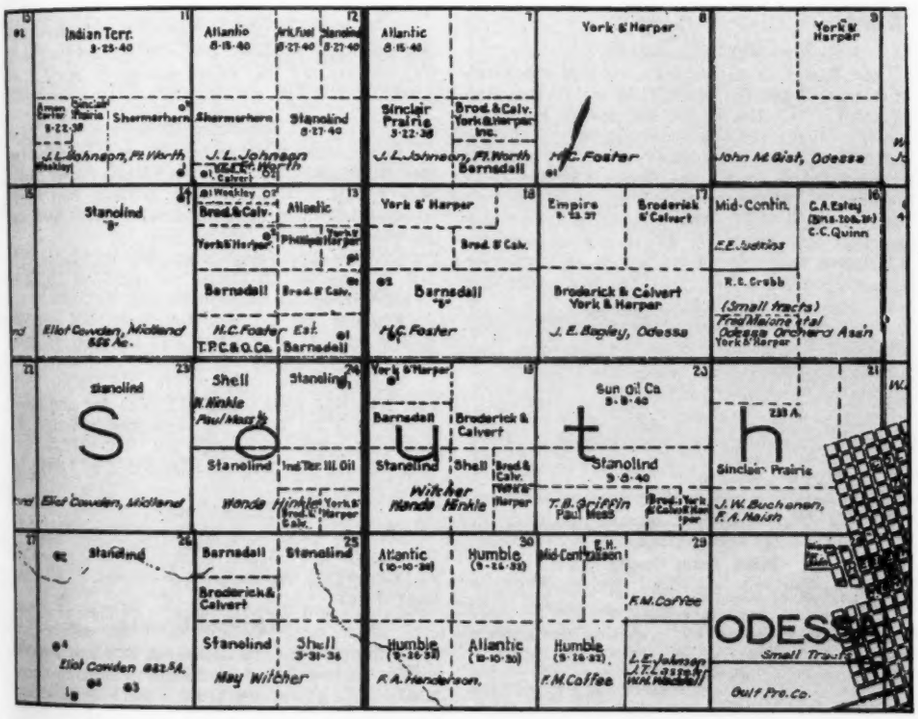
FORT WORTH, Tex., Feb. 1.—The third field for the year has been opened in West Texas, although this new area, in southern Andrews County, no doubt will be connected with production 2 miles south, over the line in Ector County. The Sinclair Prairie Oil Co. uncovered this new Andrews pool in its No. 1 E. Cowden, in section 12, Block 44, Township 2n, T.&P. Survey. The well has been temporarily completed at a total depth of 4,300 feet, making around 50 bbls. a day on swabbing through tubing after shooting and acidizing. It probably will be carried deeper in hope of picking up more porous lime in the section and thereby get increased production, although two Sun Oil Co. wells drilled nearly 2 miles to the south, in Ector County, in sections 5 and 6, Block 43, Township 1n, T.&P. Survey, both went much deeper and made small wells.

This new discovery is also 8½ miles due south of the Fuhrman pool and on a direct trend between that pool and the Holt and Cowden production to the south in Ector County.

The Mason Oil Co. of Michigan opened this new pool on the Mrs. M. and S. M. Kyle ranch, in section 20, Block 55, Township 1, T.&P. Survey.

Extension in Northern Winkler

Sun Oil Co. No. 1 Edwards, in section 6, Block 23, P.S.L. Survey, northern Winkler County, over a half-mile southwest of the recently opened area near the New Mexico line and northwest of the Leck production, is extending that new area. The well flowed 32 bbls. of oil in 24 hours before shooting with 180 quarts from 3,128-75 feet, the latter being the total depth. It is now being cleaned out and is expected to make a fair-sized well. The discovery in this area was a small pumper, but the second well, a west offset to the discovery, made 735 bbls. at a total depth of 2,998 feet. These new producers are expected to help prove a continuous chain of production from Winkler County, Texas, over into New Mexico, the nearest New Mexico production being only about 2 miles to the north of these new wells.



Foster, or Odessa field, in Ector County, and well extending it another mile to the east.—(Map courtesy Zingery Oil Map Co., Fort Worth, Tex.)

Loving Discovery Increase

The new Delaware sand discovery in northwestern Loving County, which opened a sweet-oil pool for that area last week, has been flowing an average of 316 bbls. a day during the week while cleaning out preparatory to setting tubing. When thoroughly cleaned and tubing is run it probably will show a greater potential than already indicated. It is bottomed at corrected depth of 3,903 feet, with an elevation of 3,053 feet, topping the Delaware lime at 3,860 feet and the sand at 3,895 feet. It was given a 120-quart nitroglycerin shot between 3,853-98 feet before preparing to complete.

Wildcat for Yoakum

Bahan, Rhodes and others, who abandoned a deep test in west central Yoakum County last year, have staked location for another wildcat about 4 miles to the southwest of that dry hole. Location is on the L. B. Shook ranch, in section 420, Block D, J. H. Gibson Survey, about 12 miles northwest of Yoakum County's only field, on the Bennett ranch. The first try for production was abandoned at a total depth of 5,328 feet after logging an oil showing from 5,228-40 feet and later striking sulfur water at 5,327 feet.

Lou Stogner and others, of Dallas, have staked location for a test in the eastern part of Cochran County, about 15 miles north of the Cochran County discovery on the Duggan ranch, and near the Hockley County line. A large block was assembled under the Slaughter ranch in this new area by Stogner for this new wildcat, the block falling partly in Cochran County and partly in Hockley County.

Approximately 11 miles east and a little north of the Yoakum County pool, Uscan Oil Co. has abandoned its No. 1 Brownfield, in section 51, Block K, P.S.L. Survey, southwestern Terry County, at a total depth of 5,676 feet, having logged no reported gas or oil showings. This test was a result of the Yoakum County strike, but failed to pick up the pay horizon found in the Bennett discovery in that county to the west.

Dick Graham and others have spudded on their No. 1 Great West Refining Co. test, in section 48, Block 32, Township 1n, T.&P. Survey, 4 miles east of Big Spring in Howard County. Several dry holes have been drilled within a radius of 6 miles around this new test, three of them being within 2 miles, all proving failures.

Goldsmith-Cummins Area Busy

There are 14 tests either preparing to get under way or drilling at shallow depths in the Cummins-Goldsmith area, north of what is considered as the Goldsmith field and in the recently opened and extended Cummins area, which has been joined by production to the Goldsmith field, making that field continuous for 10 miles from southeast to northwest, with another three-eighths of a mile extension showing in a well on the south end of the Goldsmith field, drilling by the Gulf Oil Corp. discoverer of the major field in Ector County.

This field, especially in the Cummins extension area, will be one of the busiest spots in the West Texas district during the year as the acreage is held by many independents and major companies, wells forcing offsets so that development will be rapid and steady as in the sandy lime trend east of the Hendricks field in Winkler County, which has been one of the most active areas in the district during the past year and a half.

Another extension well in the Cummins extension was completed in the past week, thereby bringing the two areas closer by production, this one proving the best well yet completed in the area. American Maracaibo Oil Co. No. 1 Scharbauer made 2.80 bbls. a day after shooting and acidizing twice. It was bottomed at 4,230 feet, topping the first oil at 4,155 feet. Logging increased at 4,173 feet and 4,195 feet. The well is located in the southwest quarter of section 19, Block 44, Township 1n, T.&P. Survey, 1 mile west of one extension producer, the same distance north of another, and nearly 1¼ miles east of the Cummins discovery well.

Wildcat in Jones County

T. K. Simmons of Tulsa has spudded in his No. 1 E. A. Hicks, in section 5, Orphan Asylum Lands Survey, about 5 miles west of Lueders in northeastern Jones County. It is located on a block of some 800 acres and will seek production from the King sand.

The Guitar pool in Jones County, was defined this week on the southeast when Thomas D. Humphrey No. 1-A Guitar, in section 44, Block 15, T.&P. Survey, was abandoned at a total depth of 2,423 feet in shale. The fourth producer for the

field was also completed in the past week, this pool being discovered the latter part of 1936 and opening a new producing area east of the Hawley field.

WEST CENTRAL TEXAS

News of interest again came out of Hamilton County from the Seaboard Oil Corp., which during the past two years has drilled three tests in the county, two of which proved gas wells and the othes a dry hole. The fourth test the company is drilling on a large block near Fairy, in the northeastern part of the county, in the A. C. Grimes Survey, topped the Ellenberger lime at 4,144 feet and logged saturation at 4,147½ feet, making an estimated 50,000 feet of gas a day and bailing around 20 bbls. of oil, showing no water. Gravity of the oil tested 40.3 degrees. The well is drilling deeper below 4,165 feet.

This good showing of oil will heighten interest in the county, and especially in this immediate area, where the company drilled on a geophysical faulted structure. Other good showings of oil have been struck in the county, but this one is considered about the best, with chances for the test making a commercial producer and opening the first oil production in the county.

Bryson Field

The R. H. Deering No. 1 J. A. Raley, in the I. Hughson Survey, in the Bryson field, Jack County, is showing for a producer from 20 feet of oil sand logged at 3,146-66 feet, and when completed it will extend the field 1 mile to the north of the nearest production and serve as a connecting link between the north and east pools of the field, also proving up more producing territory in the field which is rapidly reaching major importance.

During the past 10 days inclement weather and impassable roads in the field have slowed up activities in the Bryson field, but town-lot leasing has been sweeping the small village and wells are being drilled or preparing to be drilled on several lots. However, the Railroad Commission is expected to prevent drilling on a mere lot, owners being required to pool their lots so as to form at least one city block, on which the commission will grant drilling permits.

Tom Patten of Dallas is preparing to sink a 4,600-foot wildcat test on the Williams lands in B.S.&F. Survey, on a block of some 1,000 acres in the southern part of Jack County. Location for this test is 2,500 feet south of an old test drilled by the old Roxana Petroleum Corp. (now Shell Petroleum Corp.) 17 years ago, that test proving a small producer.

Denton County

The Denton County gasser of the Bolivar Drilling Co. on the J. P. Knox lands, in the N. Howard Survey, near the Cooke County line, which is estimated good for 10,000,000 feet of gas from 1,951 feet, has caused considerable trading in leases and scheduling of several tests. The discoverers of this gasser are preparing for a nearby test. Martin & Ruwalt are said to be planning a test southeast of the gas discovery, and another test is reported planned to the northwest of the Knox farm.

R. C. Albright and associates are rigging up standard tools to sink a 4,000-foot hole on the W. E. Steele farm, in the Indianola Railroad Survey, about 10 miles east of Graham and near the west line of Jack County in Young County, and in the same section as some gas wells owned by the Panhandle Refining Co. on the Cox farm.

Panhandle District

Holmes & Holmes No. 1 Lyall, in section 33, Block Z, E.L.R.R. Survey, in Hutchinson County, is being tested at a total depth of 2,733 feet. The pay was topped at 2,680 feet in dolomite. When the well is completed it will prove an extension of 1½ miles to the dolomite pay area north of the river, opening up more producing territory for the Panhandle field. It has been given a 300-quart shot of nitroglycerin preparatory to completing.

The extreme wildcat test of Curly Hobbs on the Pearson-Hitch lands in section 290, Block 2, G.H.&H. Survey, norther Hansford County, is now estimated good for 3,000,000 feet of gas a day as it stands, but the operator is planning to give it a shot to boost its potential. The nearest gas or oil production is to the south in the adjacent county, Hutchinson County, Hansford being on the state line. Consequently the wildcat is of importance to Oklahoma and Texas and southwestern Kansas operators.

WEST CENTRAL TEXAS COMPLETIONS

Eastland County

Lone Star Gas Co. No. 2 Boggs, 3,387-3,401 feet, total depth 3,430 feet, 15 bbls. of oil.

Shackelford County

William J. Healy No. 8 Clark, 650-66 feet, initial production 8 bbls. George B. Ray No. 7 Vickers, 1,584-89 feet, initial production 18 bbls. Roeser & Pendleton No. 16 Dawson & Conway, 1,610-11½ feet, total depth 1,619 feet, initial production 155 bbls.

Throckmorton County

Canyon Oil & Gas Co. No. 3 Lilly, total depth 365 feet, dry and abandoned.

Rocky Mountain Fields

(Continued from Page 67)

Montana-Dakota Utilities Co. No. 3 Smith No. 1, Unit 8, C SE NW sec. 8-4n-62e. T.D. 6,765 ft.; prep. to test.

Fergus County

Judith Op. Co. No. 2 Govt., CWL NW NE sec. 35-22n-17e. S.D. 3,180 ft.

Emmons et al No. 4 Govt., SW cor. sec. 3-21n-18e. S.D. 432 ft. for winter.

Emmons et al No. 5 Govt., SW cor. sec. 24-22n-18e. Drlg. 335 ft.

O. B. Canfield No. 1 Govt., CEL SE NE sec. 21-17n-24e. Drlg. 532 ft. Colo. sh. (first report).

Glacier County

The best well so far completed in the southwest area of the Cut Bank field is William Hanlon's No. 1 All.-128, C SE NE section 12-32n-6w, which swabbed 125 bbls. first six hours and then had to shut down on account of the cold weather. It is one-fourth of a mile southeast of Dr. Peter Potter's No. 1 Tribal-125, which made 100 bbls. initial after a shot. The Hanlon well was completed at 2,974 feet. It had the Sunburst sand at 2,930-45 feet and set the 7-inch at 2,948 feet. It had 2,000 feet of oil from the pay at 2,955-72 feet. Elevation is 3,667 feet.

One new operation was reported in Cut Bank.

Dakota-Montana Oil Co. No. 1 Tribal 136, C NE NE sec. 15-34n-6w. T.D. 2,100 ft.; redrlg. 1,990 ft.

Glacier Prod. Co. No. 1 Abraham, C SW SE sec. 19-34n-5w. M.I.M.

Glacier Prod. Co. No. 1 Williams, C SW SE sec. 21-33n-5w. Cmdt. 10¾-in. at 607 ft.; Colo. 575 ft.

Glacier Prod. Co. No. 5 Seeba, CWL NW NW sec. 2-34n-6w. R.O.G. (first report).

Hannah-Porter Co. No. 2 All.-130, C NE SW sec. 6-32n-5w. Rng. 7-in. at 2,925 ft.

Vera Johnson No. 1 Tribal-118, C SW SW sec. 1-32n-6w. S.D. 2,900 ft. for 8¼-in.

Dan Whetstone No. 2 Tribal-117, C NE SW sec. 36-33n-6w. Cmtd. 7-in. at 3,025 ft.; W.O.C.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15s. Drlg. 1,352 ft. in Kootenai.

Liberty County

Western Natural Gas Co. No. 2 Wallace, NW NW SW sec. 15-37n-4e. Drlg. 1,940 ft.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec 28-2s-11e. Drlg. 629 ft.

Petroleum County

H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. Drlg. 680 ft.

Phillips County

R. G. Parrant No. 1 Hartman, C NW SE sec. 12-24n-25e. Drlg. 715 ft. in Eagle sd.

Pondera County

Clinch Pet., Ltd., No. 1 Holan, NW SW NW sec. 12-23s-6w. T.D. 2,200 ft.; cleaned up fsg. job and S.D.

K. P. Hardee No. 1 Hughes, NW NE NW sec. 12-30n-4w. S.D. 2,497 ft.

Kirk Oil Co. No. 1 Kellogg, SE NW NE sec. 31-28n-4w. S.D. 2,130 ft.

Sheridan County

Cheyenne O. & G. Co. No. 1 Olson, SE SE SE sec. 14-35n-53e. S.D. 2,615 ft.; 500,000 ft. of gas 1,050 ft. and 500,000 ft. at 1,305 ft.; S.O. with 12½-in.

Toole County

All drilling wells in the Kevin-Sunburst field continued shut down on account of the blizzard.

Yellowstone County

R. C. Tarrant No. 2 Mosser, SW SW NE sec. 26-3s-24e. Cmtd. 8¼-in. on top Dakota at 990 ft. and S.D.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 Lauzur, CNL NW NW sec. 27-3n-24e. Rig; S.D. for winter.

Emery County

California Co.-Continental Oil Co. No. 1-A Palm, C NW NW sec. 27-23s-11e. S.D. 1,652 ft. for winter.

Grand County

Columbia Crude Corp. No. 1 Rath, NW SW SW sec. 13-35-20e. Cmtd. 7-in. at 2,033 ft. in Paradox; drlg. 2,001 ft.; S.D. in Paradox.

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 13-22s-22e. Drlg. 6,280 ft. in Upper Hermosa.

Utah County

Diamond Oil Co. No. 4 Govt., CNL SE NW sec. 16-3s-1a T.D. 4,900 ft.; fsg. bit.

Summit County

Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. T.D 1,920 ft.; rng. 6⅝-in.

NEBRASKA

J. M. Huber Corp. and United Producers, Inc., No. 1 Morgan, C SW SW section 32-35n-56w, Antelope district, Sioux County, was plugged and abandoned at 2,700 feet. It had 1,045 feet of Pierre at the top and the Niobrara at 1,045-1,270 feet. The Dakota at 2,490 feet. had 1,200 feet of water.

Lincoln County

Smith & Wright No. 1 Hansen, C SW NW sec. 24-15n-31w. Drlg. 600 ft. in hard red sdy. sh. (loc. cor.).

Oklahoma Fields

(Continued from Page 73)

had 300 feet of water in the hole. It was plugged back to base of Bartlesville sand at 2,563 feet, drilled out to 2,650 feet and pumped 10 bbls. of oil and 2½ bbls. of water a day.

Strozier Drilling Co. No. 1 Gidney, NW NW SE section 12-16-11, had sand at 1,610-25 feet, total depth, produced 2,000,000 feet of gas and was completed.

New work in Creek County: Strozier Drilling Co. No. 1 Anthony, SW SW NE section 12-16-11, was rigging up. Same operator's No. 1-A Atkins, NE NE SW section 12-16-11, was a location.

Okmulgee County

Completions in Okmulgee County included two gas wells and three failures. Eagle-Picher No. 2 Henry, NW NW SE section 27-12-12, had Booch sand at 1,850 feet, was bottomed at 2,154 feet, and produced 1,500,000 feet of gas.

A. W. Anthony and others No. 1-A Smith, NW NE NE section 21-12-14, had sand at 592 feet and produced 500,000 feet of gas.

Kishoma Oil Co. No. 4-A Scott, NE SE NW section 23-13-14, had a hole full of water at 1,938-50 feet, total depth, and was dry and abandoned.

Panther Oil & Gas Co. No. 1-A Carter, C W half NW NW section 12-11-11, was dry and abandoned at 1,250 feet. No sand was reported. L. Neal and others No. 3 D. Polk, NW SE NW section 3-12-13, was dry and abandoned at 1,866 feet, total depth.

Tulsa County

The only completion in Tulsa County was Bu-Vi-Bar No. 3 Thatcher, C N half SE NE section 27-18-13, which was dry and abandoned at 704 feet, total depth.

Muskogee County

C. Lambert No. 2-A Hawkins, C S half SW SE section 31-16-15, had sands at 1,274-91 feet and 1,307-15 feet; total depth, 1,783 feet; plugged back to 1,330 feet and produced 5 bbls. of oil daily, with 7,500,000 feet of gas. It was the only Muskogee County completion.

Coal County

Continental Oil Co. No. 1 Sawyer, SE SW NW section 7-1-8, Coal County extension of the Jesse area, produced 10,000,000 feet of gas at 2,145 feet, total depth, and was completed.

Continental Oil Co. No. 1 Daniels, SW NE SW section 27-1-9, wildcat in Coal County, showed salt water on Schlumberger test and was dry and abandoned at 7,195 feet, total depth. Formation tops were: Atoka, 1,320 feet; sand at 4,350-56 feet, with a slight showing of oil; Wapanucka, 4,350 feet; Union Valley, 5,162 feet; no Cromwell sand; Pennsylvania Caney, 5,570 feet; Mississippi Caney, 5,640 feet; Mayes, 5,835 feet; Woodford, 5,860 feet; Hunton, 6,044 feet; Sylvan, 6,278 feet; Viola, 6,385 feet; Bromide, 6,656 feet; McLish, 6,847 feet; Wilcox, 7,161 feet.

Carter County

Sinclair Prairie Oil Co. No. 30 Million & Thomas, SE cor. section 5-4s-3w, Healdton field,

Carter County, had oil sand at 1,085-1,115 feet; shot with 30 quarts at 1,084-1,115 feet, total depth, and pumped 124 bbls. of 34 gravity oil in 24 hours, completed.

Jones Brothers No. 1 Humble-Dillard, NW SW SE NE section 22-4s-2w, an old well, was deepened from 1,500 feet to 2,690 feet and recompleted, pumping 17 bbls. of oil daily. Production was from sand and shale at 2,252-99 feet, 2,399-2,585 feet, and 2,600-31 feet.

Sinclair Prairie Oil Co. No. 17 J. S. Mullin, CNL NE SE section 4-4s-3w, Carter County, was a location.

Stephens County

Mudge Oil Co. No. 9 Robberson, SE SW SW section 10-3s-5w, Stephens County, produced 500,000 feet of gas daily and was completed at 425 feet, total depth.

Raizen Brothers No. 11 Price, NW SE SW section 10-3s-5w, had sand at 1,431-57 feet, total depth, pumped 25 bbls. of oil in 24 hours and was completed.

Kiowa County

Two failures were reported in Kiowa County. Coates and others No. 1 Webster, SE SW NE section 2-6-17w, had a showing of gas at 432-35 feet, but was abandoned at 440 feet.

Nagle-Adams No. 2 Oster, NE NW SW section 27-7-17w, was dry and abandoned at 1,003 feet in lime.

Caddo County

Magnolia Petroleum Co. No. 5 Sames, NW NW NE section 35-6-10w, the only new test reported in Caddo County, had dug pits.

Jackson County

One new test was reported in Jackson County. Gulf Oil Corp. No. 1 D. Abernathy, NW NE SW section 12-1n-20w, had moved in rotary tools.

Logan County

Mid-Continent Petroleum Corp. No. 6 Campbell, NE SE NE section 33-17-4w, was a location in the Crescent field, Logan County.

Opening New Pool in Marion County Stirs Wide Interest

Interest has been aroused by discovery of a new pool in northwestern Marion County, Illinois, where Adams Louisiana Co. No. 1 Merriman, SE SW section 21, Patoka Township 4n-1e, came in after a 10-quart shot flowing 250 bbls. of 39° gravity oil through 2-inch tubing from a sand near the middle of the Chester series topped at 1,378 feet.

Casing was set and cemented at 1,375 feet and core taken to 1,415 feet through 27 feet of broken sand followed by 10 feet of pay.

Nearby dry-hole records indicate only the top of the sand has been penetrated. This pay is believed to be a stray sand, present but water bearing in the Sandoval field, 9 miles south. The Benoist or Sandoval pay should be expected around 1,490 feet and will not be tested in this well at present. This pool was located by the seismograph alone on the northward extension of the DuQuoin-Sandoval flexture and on top of a small dome with more than 100 feet of closure and not more than 1,000 acres in extent.

Farther south on this flexture minor cross folds have produced small domes at Wamac, Junction City, and Sandoval that have produced for 25 years, in part from the Carbondale series of middle Pennsylvanian and in part from the Chester series of Upper Mississippian Age. This well is the first discovery in the present wildcat play by the major companies in the Illinois Basin. It is also the first production found by a seismograph survey, and the first well brought in by rotary equipment.

Michigan Fields

(Continued from Page 60)

Greatest activity in the county, however, was in the new Buckeye Township pool, now officially designated the Wicklund-Buckeye pool after the discovery well brought in more than 5 miles from other production by the Wicklund Development Co. a few weeks ago. About 20 tests were active in this third of four new oil-producing areas.

New Locations

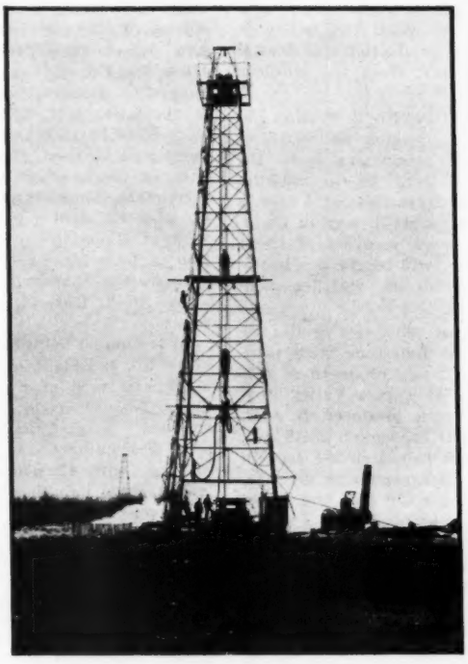
During the past two weeks the state conservation department has issued 35 permits to drill, a strong start on new developments in 1937.

Most of the new permits were for tests to be drilled in the Buckeye Township, Gladwin County; Sherman Township, Isabella County, or Clayton Township, Arenac County, fields, all new areas. Others were for proved oil or gas fields with the exception of a few more wildcats.

The wildcats were: Wolverine Drillers No. 1 Garduliski, SE SW SE section 19-2s-9e, Nankin Township, Wayne County; Darke Brothers No. 1 Truesdell, SW SW SW section 32, and Development Co. No. 1 Voorhees, NE NE SE section 32-2s-7e, same township, and county.

Nearing Completions

Pure Oil Co. had drilled into the Dundee oil pay sands in the No. 2-E Root, C S half SW NW section 7-13n-1w, Porter Township, Midland County, at 3,445 feet, and was expecting to make at least a small producer of it.



Highest derrick in field. Hal Be Oyle Co. test drilling in Clayton Township, Arenac County, Michigan

Burks White, Jr., was near Dundee in the No. 7 Opperman, SE SW SE section 12-14n-2w, Greendale Township, Midland County, drilling at more than 3,440 feet.

Pure Oil Co. also was nearing Dundee completion in the Nos. 16, 17 and 18 Bond-Root in section 3-13n-2w, in the Jasper or Yost section of the Porter-Yost field, Midland County.

Taggart Brothers, Inc., were plugging the No. 1 Lintemuth, NW NW NW section 35-15n-9w, Colfax Township, Mecosta County, dry at 3,710 feet, to move over for another test outside the Austin Township, Mecosta County, gas field.

Wiser Oil Co. was nearing Michigan Stray gas sands in the No. 2 Hough, C SE NW section 31-13n-7w, near the great central Michigan gas-producing area.

Harley Williams also was nearing completion of the No. 1 Hanson & Raae, SE SE SE section 15-30n-1w, Charlton Township.

Southwest Texas Fields

(Continued from Page 59)

ner. The Stanolind Oil & Gas Co. No. 1 Stratton was reworked and is making gas and distillate.

One wildcat in the county was abandoned as another began. The Morgan No. 1 Bird, southwest outpost well for the Clarkwood field, chalked up a failure as it was abandoned at 6,009 feet. In the vicinity of the London field and about 8 miles southwest of Corpus Christi, E. M. Jones has staked location for No. 1 Cook, to be drilled in the Quadrilla Irrigation Co. Survey 139.

A new producer and extension to the La Blanca field of Hidalgo County enhanced the value of that field in the last week. Pantana Petroleum Co. No. 1 McDougal, about one-half mile south of the No. 1 Engleman, recently completed oiler, was showing for another producer. The test is bottomed at 8,077 feet. At the latest gauge it made 2½ bbls. an hour of 55-gravity straw-colored oil, the gravity of which dropped gradually to about 52. The test is shut in, with casing pressure of 3,200 pounds to change separators.

In Jim Wells County W. F. Morgan No. 1 Laughlin, a 2,000-foot north outpost test to the West Premont field, showed oil on a drillstem test at 2,349-56 feet. Casing has been set and plugs are being drilled for a completion attempt, which, if successful, will give the field a major extension.

In the Pearsall field of Frio County, Amerada Petroleum Corp. No. 8 Halff & Oppenheimer was making 380 bbls. a day of 35.8-gravity crude from the Edwards lime formation through casing. The test blew out when swabbing several weeks ago, and a swab and line are welded in the tubing. This is the first production from the Edwards lime in Pearsall, adding another horizon to the field which already produces from the Buda lime, the Navarro sand and the Austin chalk.

Rocky Mountain Runs

Estimated daily production for the week ending January 30:

WYOMING

	Bbls.
Salt Creek	16,290
Big Muddy	1,410
Badger Basin	40
Black Mountain	60
Byron	830
Dallas Derby	630
Dutton Creek	50
Elk Basin	410
Frannie	890
Garland	2,560
Grass Creek	1,430
Hamilton dome	770
Hidden dome	530
Hudson	260
LaBarge	1,110
Lance Creek	11,270
Lost Soldier	1,120
Medicine Bow	2,090
Midway	30
Oregon Basin	2,210
Osage	650
Pilot Butte	20
Quealy dome	610
Rock River	1,280
South Casper	350
Poison Spider	230
Simpson Ridge	10
Teapot	20
Wertz	30
Waugh dome	60
Total Wyoming	47,250

MONTANA

Buckley Border	220
Cat Creek	570
Cut Bank	10,220
Dry Creek	170
Kevin-Sunburst	4,270
Lake Basin	40
Pondera	1,130
Total Montana	16,620

COLORADO

Florence	140
Fort Collins and Wellington	260
Iles dome	2,470
Moffat	380
Orchard	10
Rangely	80
Tow Creek	200
Total Colorado	3,540

NEW MEXICO

Artesia	630
Cooper area	7,670
Eunice area	29,870
Getty	150
Hobbs	21,760
Hogback	200
Jal	3,720
Lea area	1,010
Maljamar	2,510
Monument	12,310
Rattlesnake	710
Table Mesa	90
Total New Mexico	80,630
Total Rocky Mountain region	148,040

Clean Out

with a **MILLER**

SAND PUMP

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Feb. 1.—On the west flank of South Turner Valley, Foundation Royalties No. 1, LSD 5, section 21-18-2w5, is drilling up the bailer lost 20 feet below the casing. The work is being carried on in sub-zero weather, with oil flowing by heads. After the hole is cleared out tubing will be replaced and production tested. With the bailer in the hole crude production was around 342 bbls. a day, from the Madison lime.

Royalite Oil Co. No. 3 Sterling Pacific, LSD 13, section 33-18-2w5, is testing crude production from the lime at 6,788 feet. In the naphtha area Renfrew Royalties No. 1 Morris & Goodfellow, LSD 3, section 28-18-2w5, which has a recovery of about 10 bbls. a day, will be given a heavy shot as soon as the weather moderates.

On the west side two wells are drilling in the limestone with prospects of getting production this month. South of Turner Valley Royalties No. 1 crude producer, B. & B. Co. No. 1, LSD 12, section 28-18-2w5, is below 6,449 feet and 254 feet in the lime. It is expected to get production around 6,650 feet and likely will be a crude producer. Farther south, West Side Royalties No. 1, LSD 3, section 21-18-2w5, is below 5,972 feet after getting the lime at 5,940 feet. It is farther east, and may be in the naphtha area.

Several other tests are drilling close to the lime, with prospects of reaching the potential producing horizon in February.

West Side Operations

In section 5-19-2w5, Mercury Royalties No. 1, LSD 8, has cemented 18⅝-inch casing at 517 feet. Mercury Oils No. 8, LSD 3, section 4-19-2w5, has derrick up, waiting for equipment.

In section 33-18-2w5, Royalite Oil Co. No. 4 Sterling Pacific, LSD 4, offsetting Turner Valley Royalties No. 1 to the north, has cemented 8⅝-inch casing at 6,172 feet before deepening to the limestone. Sterling Pacific No. 5, LSD 12, same section, is working on derrick.

In section 28-18-2w5, Richland Royalties No. 1, LSD 12, is rigging. It is the nearest test to the south of Turner Valley Royalties No. 1. Richland No. 2, LSD 5, same section, is cleaning old hole to 4,060 feet. Richland No. 3 Central, LSD 14, offsetting Century Royalties No. 1, is below 4,055 feet after getting some gas and crude in the Blairmore formation around 4,000 feet. It is logging high and should get the lime around 5,700 feet. Century Royalties No. 1, farther north in the same LSD, started as a naphtha producer from the lime but changed to crude.

Farther west, in section 29-18-2w5, Davies Petroleums No. 1, LSD 2, will start work early in February, with H. E. Morgan handling the contract. Cable tools will be used. Location is on acreage of Madison Oils, Ltd., Commoil No. 1, LSD 15, same section, will start in February, using rotary equipment secured from Calmont Oils, Ltd. Commoil, Ltd., is a subsidiary of Commonwealth Petroleums, Ltd., which owns the acreage. Sunburst Oil Co. of Vancouver has arranged for financing of its No. 1 test in the north half, LSD 1, same section. Steel derrick and rotary equipment will be used. Rand Petroleum, Ltd., of Calgary has subleased LSD 6 from the Consolidated Development Co. and will drill a test immediately west of Globe Royalties No. 1 location in LSD 7.

In section 21-18-2w5, Newfold Royalties No. 1, LSD 11, is below 5,622 feet.

In section 20-18-2w5, Monarch Royalties No. 1, LSD 9, one-quarter mile north and west of Foundation Royalties No. 1 crude producer, has spudded. Anglo-Canadian Development & Holding Co. is financing the drilling, with Clarence Snyder and Hilary Head handling the contract.

In section 16-18-2w5, Firestone Petroleums No. 1, LSD 13, has finished gas line from the British-American Oil Co. absorption plant. In section 17-18-2w5, Prairie Royalties No. 1, LSD 16, will be supplied from the same line, and is starting on derrick. Rotary equipment is on the ground.

In section 9-18-2w5, National Petroleum Co. No. 2, LSD 14, is rigging, and will spud early in February. National Petroleum No. 1, S half LSD 8, section 29-18-2w5, will start work as soon as No. 2 is under way.

Dalhousie Nears Lime

Among the most interesting tests is Dalhousie Oil Co. No. 8, LSD 6, section 30-19-2w5. Location is in a wooded and previously untested area, about 5 miles north of Turner Valley Royalties No. 1 and between 1 and 2 miles west of any previous important production. It is northwest of the Home wells which some 10 years ago opened the South Turner Valley field and southwest of the main central producing area. It is below 5,779 feet after getting the Home sand at 5,675 feet. It is expected to get the brown sand of the Dalhousie formation at 6,000 feet and the lime considerably above 6,300 feet, as it is logging higher than Turner Valley Royalties No. 1, which got the lime at 6,396 feet. Apparently the latter well is in a dip on the west flank, as the Foundation and West Side wells farther south both got the lime considerably higher.

The logs would indicate that instead of plunging steeply, as was expected, the structure southwest and northwest flattens considerably, a condition which would materially extend the potential producing area.

New Tests Planned

Highwood-Sarcee Oils, Ltd., of Calgary, will drill No. 3 in LSD 2, section 21-18-2w5, offsetting West Side Royalties No. 1 to the east. Rotary outfit will be moved from No. 2, and the test will spud within a few weeks. The Highwood-Sarcee company, originally organized by the late A. W. Dingman, pioneer of the Turner Valley field, has two producers, No. 1, LSD 16, section 21-18-2w5, at one time the largest naphtha well in the field, and No. 2, LSD 1, same section, which is a small naphtha well. The company is negotiating for a test on acreage in LSD 9, section 11-20-3w5, on the west flank of North Turner Valley.

Weymarn Petroleums, Ltd., headed by Paul von Weymarn of Oslo, Norway, has taken over NW quarter section 18-18-2w5, on the southwest flank of South Turner Valley, subject to royalty to Calgary & Edmonton Corp.

In the far south Royal Canadian Co. has located its No. 1 test in LSD 4, section 16-18-2w5, subleased from Okalta Oils, Ltd. The lease carries with it an option on LSD 15, section 20-18-2w5. The location is northwest of National Petroleum Co. No. 2 in section 9-18-2w5, and considerably south of any other drilling test.

High River-Aldersyde

On the Cayley structure in the High River area, east of Turner Valley, Area Development Corp. No. 1 NW section 24-18-1w5, has resumed from 8,804 feet where casing was cemented after getting the Madison limestone at 8,756 feet. As the formations are believed to thin toward the east, production is thought possible within 200 feet.

On the Aldersyde structure, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, has resumed from 7,065 feet after a shutdown for bad weather.

On the New Valley structure, northwest of Turner Valley, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, is shut down at 7,255 feet owing to bad weather. It will be deepened for gas to flow the oil from the cardium sandstone at 6,400 feet, and may eventually be carried to the Madison lime.

In the Black Diamond district, east of Turner Valley, Sentinel Oil Co. No. 1, LSD 15, section 8-20-2w5, is overhauling derrick and outfit to deepen the test from 5,850 feet, where drilling was suspended about six years ago. Drilling started in the Edmonton formation and was apparently in the lower Belly River formation when work was discontinued. Gas was encountered in small quantities in three horizons between 2,890 and 3,980 feet and oil shows at 4,255 and 4,870 feet. Location is south and a little east of McLeod No. 1 New Valley, considerably south and west of Ranchmen's No. 1, and north and west of Area Development Corp. No. 1. The geological conditions, however, are thought to be similar.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is in a hard limey formation below 7,025 feet.

On the Kootenay dome west of

Calgary, Roxana Petroleum No. 1, section 8-24-7w5, is below 1,562 feet.

On the Birch Ridge structure, Elbow Oils No. 1, LSD 11, section 35-22-5w5, has resumed from 4,810 feet and is expected to get the brown sand of the Dalhousie around 4,850 feet. It got considerable gas at 4,755 feet, and cemented casing at 4,795 feet.

On the Highwood-Sinclair structure southwest of Turner Valley, Maple Leaf Royalties No. 1 Banner, LSD 6, section 34-17-3w5, is below 2,514 feet with a little caving trouble.

On the Mill Creek structure southwest of Pincher Creek, Weymarn Petroleums No. 2, LSD 5, section 7-6-1w5, is waiting for production test at 5,960 feet. Drifted roads prevent moving the casing which has been racked at Pincher Creek station till the weather moderates.

Border Fields

On the Majestic structure west of Taber, in southern Alberta, Plains Petroleum No. 1, LSD 13-14, section 29-9-17w4, is below 2,700 feet after setting casing in the Blairmore-Kootenay formation. Production is expected around 3,200 to 3,300 feet in the Sunburst sand. The Cole-Hunter No. 1 deep test, 2 miles to the northwest, got strong oil shows in this horizon between 3,310 and 3,317 feet, but they were mudded off for deeper drilling.

In the Cardston district, Franco Oils No. 1, LSD 6, section 5-3-25w4, is below 4,044 feet after cementing against caving. On the Del Bonita structure, Sunshine Oils No. 1, LSD 10, section 19-1-21w4, is cleaning out and deepening in the lime from 5,232 feet with additional oil and gas shows. On the South Twin River structure, Del Bonita Associated Oils No. 3, LSD 9, section 10-2-20w4, is standing cemented in the top of the lime at 3,988 feet.

East Central Alberta

In the Wainwright field, East central Alberta, Wainwell Oils No. 4, LSD 15, section 36-44-7w4, bottoming at 2,053 feet, will be cleaned out and shot for gas production.

Altoba Gas Co. No. 1, LSD 2, section 13-46-7w4, is below 1,731 feet on a test for gas. Location is west of the Battle River and south of Buffalo Creek. The Altoba company is a subsidiary of the Canadian Western Natural Gas Co. and allied interests.

In the Vermilion area, Tenwell Gas & Oil Co. No. 1, LSD 9, section 36-50-7w4, bottoming at 2,087 feet, is pulling drill pipe, after an unsuccessful shot.

The Gillies-Credille Drilling Co., Ltd., has been incorporated under an Alberta charter with capitalization of $25,000 and head office in Edmonton. E. J. McCosham is president. Two rotary outfits will be used in the Wainwright and Ribstone fields.

Red Coulee Field

D. A. McDonald and associates have located a test in LSD 11, section 4-1-17w4, midway between the Red Coulee and Del Bonita fields in southern Alberta. The structure has been reported on by Dr. J. O. G. Sanderson of Calgary and is regarded as a potential extension of the Cut Bank field which is about 2½ miles to the south. Work will be started this spring.

Ontario Drilling

In the De Clute field, Kent County, Ontario, Gubb & Russell No. 1, Lot 125, North Talbot Road, Raleigh Township, finished at 1,625 feet without a show. Location was 1.4 miles east of the Pardo gassers.

In the Tilbury field, Kent County, Stover & Rawlings No. 1 test for a Detroit syndicate on the Archie Campbell farm, Lot 5, Concession 8, Tilbury East Township, is below 800 feet, and resuming after running casing. MacNamara Construction Co. No. 1, Elmer Cox farm, Lot 5, Concession 10, is pulling and resetting 6⅝-inch casing around 900 feet. Perdue Syndicate No. 1, J. H. Williams farm, N half Lot 3, Concession 8, is drilling in around 1,435 feet.

In the Brownsville field Lewis McMillan and Associates have rig up for No. 1 test on the Nelson farm, 1¼ miles due north of Corinth, and about 2½ miles south of Brownsville. Location is near the Elgin-Oxford County line, and it will test a potential southwesterly extension of the Brownsville field. Three wells are to

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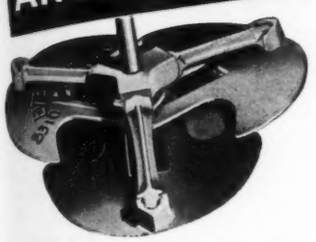

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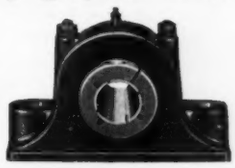

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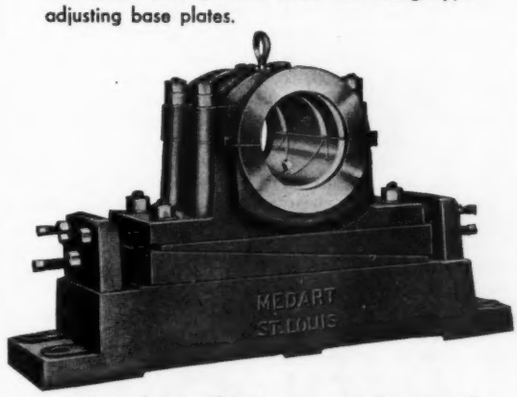

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be drilled, Stover & Rawlings of Chatham handling the contracts.

Southwest of the field Armand Smith No. 4, Lot 5, Concession 10, Bayham Township, Elgin County, is resuming after running casing at 730 feet. Aloka Oil & Gas Co. No. 8, Lot 23, Concession 12, Dereham Township, Oxford County, finished with around 1,000,000 feet a day, from the upper sand at 960 feet. Adams & McNevin No. 2, Lot 23, Concession 12, finished at the same depth with around 700,000 feet a day. W. J. Hussey's test for Archie Treleaven and associates west of the Aloka wells in Dereham Township finished with around 750,000 feet a day. Aylmer Gas Co. No. 4, Peacock farm, S Lot 12, Concession 12, finished below 950 feet with about 1,080,000 feet a day.

South and west of the field W. C. Patterson & Co. No. 1 finished with 1,000,000 feet a day at 960 feet, indicating that the formations are lower toward the south. The outfit is being moved to a new location.

In the Eden field, Elgin County, Eden Gas Co. (C. A. Simpson) No. 4, Eden village, Bayham Township, finished a dry hole at 1,350 feet after drilling through the Clinton sand. Walters Syndicate No. 2, Lot 28, Concession 8, finished a dry hole in the same horizon. E. P. Rowe No. 1, Carman Ball farm, Lot 26, Concession 8, is below 1,200 feet.

Chatham Township Field

In Ontario a second gasser has been completed in Chatham Township, Kent County, indicating possibilities of a new field. Union Gas Co. No. 6, NE cor. SE quarter Lot 10, Concession 12, got a first gas pay around 1,400 feet, which blew down to a little less than 100,000 feet a day. A larger pay, blowing down to somewhat more than 100,000 feet, was struck at 1,575 feet. The hole was deepened to 1,787 feet without encountering additional production, when it was shot with 150 pounds of dynamite. The last measurement following the shot showed close to 400,000 feet a day. Union No. 5, about 4,000 feet southwest of No. 6, previously finished with approximately 200,000 feet a day natural production and 745 pounds rock pressure. No. 7 will be started.

In the Dawn field, Lambton County, Union Gas Co. No. 90, NW cor. E half Lot 24, Concession 4, Dawn Township, finished a dry hole at 2,042 feet and was abandoned. Union No. 89, NE quarter Lot 13, Concession 2, is below 1,200 feet after casing.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Feb. 1.—As the Ohio River and its tributaries continued to set new flood marks throughout the tri-state area of Ohio, Kentucky and Indiana, they brought to the oil industry devastation never before experienced. No accurate estimate of the total loss to oil companies operating in this region can be made yet but it is believed the damage caused by fire and water will exceed $10,000,000. The Standard Oil Co. of Ohio estimates the damage to the Cincinnati refinery, from fire alone, at over $1,000,000, and this concern is unable to estimate the damage to retail outlets and equipment. The pumping station and bulk storage of the Gulf Refining Co. in this same city, was almost completely destroyed, the loss amounting to many thousands of dollars. The same company also experienced large losses to bulk plants and equipment in Louisville, Ky., and Evansville, Ind. Many other companies experienced like losses in this section and millions of gallons of gasoline and crude oil were lost when large storage tanks caved in or floated down the Ohio River.

In Louisville, Ky., the Stoll Refining Co. plant was completely surrounded by water and considerable damage has been reported at that refinery. It was also reported that water had caused damage to the Ashland Refining Co. plant in Ashland, Ky. In fact, every oil company in western Ohio, eastern and central Kentucky, southwestern Indiana and southeastern Illinois, has suffered loss.

Producers in this section fared no better with storage tanks washed away, pipe lines breaking from the onrush of the water, rigs toppled from locations and operations completely suspended because of high water.

In other parts of the Central West fields, operations were seriously hampered by swollen rivers and streams and not a few of the wells in this territory have been temporarily shut down for that reason.

Lima Field

Operations in the Lima field were not affected to any great extent by swollen streams, but in some sections access to locations was difficult. In Sandusky County, section 25, Washington Township, G. and J. Willard No. 11 Calvin Fought made 5 bbls. the first 24 hours after a shot. The same operators have moved a rig on location for No. 12, on this same farm. In the same county, southwest corner of Ballville Township, Russell & Son have purchased the Charles Ziegler lease of 377 acres and locations have been staked for two wells to be drilled at once. This lease is proven, however, as there is a gas well located on it which is making over 1,000,000 feet of gas a day.

In Wyandot County, section 3, Crane Township, Upper Sandusky Oil & Gas Co. No. 12 O. J. Weiker was completed below the Trenton at 1,328-78 feet and has a settled production of 20 bbls. a day.

In Seneca County, section 25, Liberty Township, B. Perkins & Keiner, No. 1 Rufus Martin had an initial production of 34 bbls. after a shot. In section 33, same township, Barton Gordon is drilling on the S. N. Kime farm.

Giltex Oil Co. is drilling No. 1, on the Layer heirs property, in the NW cor. of section 25, Cynthian Township, Shelby County.

The Cleveland Fuel Oil Co. has abandoned seven old wells on the Hoodlebrink farms, Freedom Township, Wood County; Home Banking Co. has abandoned eight wells on the Stahl property, Montgomery Township; Security Oil Corp. has abandoned 11 old producers in the same township, and Commercial Bank & Savings Co. has abandoned five wells on the Wollem farm in the same township.

CENTRAL OHIO FIELD

Operations suffered a sharp decline the past week and no new location was staked in the Central Ohio fields. In Wayne County, section 20, Wayne Township, Ohio Fuel Gas Co. No. 1 Harris Bott was completed below the Clinton sand at 3,210-23 feet and has been plugged and abandoned after making a small quantity of gas. The same operators are below 3,929 feet on the Samuel Speicher lease, in section 23, Paint Township.

Ohio Fuel Gas Co. completed a large commercial gas well on the Grover Heilman farm, in section 1, Spencer Township, Medina County. This gasser was drilled through the Clinton sand at 2,633 feet to a total depth of 2,645 feet. The same company's No. 1 Charles Ganyard, in Lot 47, Granger Township, has been shut down at 3,325 feet for pipe.

In Perry County, section 31, Hopewell Township, Hopewell Gas & Fuel Co. No. 1 Levina From was drilled through the Clinton sand at 2,833-72 feet to a total depth of 2,901 feet and made 200,000 feet of gas and a show of oil naturally. It was shot with 90 quarts and is being cleaned out. In section 28, same township, Wehrle Brothers No. 1 J. M. Alberts, which was drilled 40 feet through the Clinton sand, topped at 2,835 feet, with a small show of oil and gas, has been plugged and abandoned.

Ohio Fuel Gas Co. No. 144 Sunday Creek Coal Co., in section 9, Ward Township, Hocking County, was drilled through the Clinton sand to a total depth of 3,443 feet and has been plugged and abandoned as a dry hole. In section 6, same township, Joe Thomas & Co. No. 12 W. W. Ackers is drilling below 1,500 feet.

In Knox County, section 22, Jefferson Township, I. E. O'Hail No. 1 H. E. Perkins was drilled through the first and second sands, which were badly broken, to a total depth of 3,062 feet, without a show of oil or gas and has been abandoned.

The Ohio Fuel Gas Co. completed a large commercial gas well on the Robert McClain property, in section 23, Lodi Township, Athens County. This well was completed in the Macksburg 500-foot sand at 737-42 feet.

In section 3, Rutland Township, Meigs County, Marshall & Reed No. 1 Jasper Miller made 600,000 feet of gas naturally in the Salt sand at 646-64 feet and is still drilling. In section 20, same township, Roberts & Co. No. 2 Jennie Jacks, which was being deepened, was drilled through the Maxon sand at 802 feet and was abandoned when the hole filled with water. In the same township, section 1, Ohio Fuel Gas Co. No. 2 Emerson Hysell was completed below the Maxon sand at 831-41 feet as a commercial gas well. In section 31, Bedford Township, the same company's No. 2 George Heilman made a good showing of gas in the second Berea sand at 1,678-90 feet and will probably be shot.

A great many wells in Athens and Meigs County have been shut down because of high water and it will be at least two weeks before operations

(Continued on Page 91)

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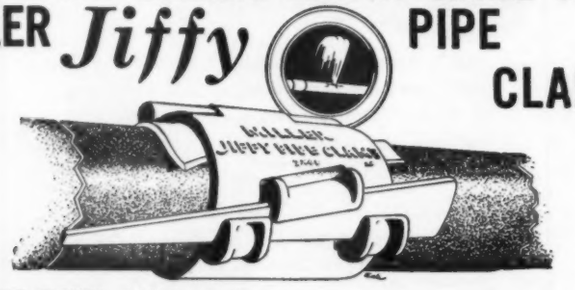

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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S. T. R.	Depth	Status—
Associated Oil Co., No. 1 Capitan, Santa Barbara Co..	2- 4-30	2,465	P.B. 2,100
Barnsdall-Rio Grande, No. 7 Elwood, Santa Barbara..	15- 4-29	3,512	P.B. 2,972
Shaffer, W. D., No. 1 Santa Maria, Santa Barbara Co.	9- 9-33	4,198	O.S. drlg.
Macrate, A. N., No. 2 Santa Maria, Santa Barbara Co.	26-10-34	3,605	flow. 2,500 b.d.
Union Oil Co., No. 12 Santa Maria, Santa Barbara Co.	24-10-34	4,087	flow. 4,425 b.d.
Union Oil Co., No. 14 Santa Maria, Santa Barbara Co.	24-10-34	1,811	sd. sh. drlg.
Union Oil Co., No. 11 Orcutt, Santa Barbara Co.	26- 9-34	4,083	reaming
Union Oil Co., No. 17 Orcutt, Santa Barbara Co.	26- 9-34	2,231	deepening
Valley Oil Co., No. 1 Casmalia, Santa Barbara Co. ...	20- 9-34	760	sd. sh. drlg.
Petrol Corp., No. 1 Gato Ridge, Santa Barbara Co. ..	9- 8-32	2,480	flow. 2,000 b.d.
Field Gasoline Corp., No. 1 Gato Ridge, Santa Barbara	4- 8-32	2,000	cmtd.
Stewart-Carter Oil Co., No. 1 Gato Ridge, S. Barbara	4- 8-32	1,955	sd. sh. drlg.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co. ..	25-10-35	8,021	cmt. fish
Nine Springs Oil Co., No. 1 Los Olivos, S. Barbara Co.	9- 7-30	3,080	cleaning out
Dietzman, J., No. 1 Carpenteria, Santa Barbara Co...	8- 4-25	1,025	cleaning out
Fisher, Dan, No. 1 Cuyama, Santa Barbara Co.	28-11-28	640	sd. sh. drlg.
Calumet Oil Co., No. 16 Shiells, Ventura Co.	3- 3-19	162	sd. sh. drlg.
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	548	cmtd. 548
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,486	sd. sh. drlg.
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	3,200	idle
Speik Oil Co., No. 2 Sespe, Ventura Co.	33- 5-19	1,720	hd. sh. drlg.
Colima Oil Co., No. 2 Sespe, Ventura Co.	25- 5-19	800	will cmt.
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co..	6- 4-18	2,774	bailing
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co.	4- 4-18	4,584	P.B. 3,530
Bolsa Chica Oil Co., No. 5 Temescal, Ventura Co.	5- 4-18	731	sd. sh. drlg.
Pacific Western Oil Co., No. 7 Temescal, Ventura Co.	4- 4-18	3,271	P.B. 3,158
Associated Oil Co., No. 1 Wiley Canyon, Ventura Co. .	6- 3-18	4,550	hd. sd. drlg.
St. Louis Oil Co., No. 3 Ojai, Ventura Co.	13- 4-24	398	hd. sd. drlg.
Vaca Oil Co., No. 1 Oxnard, Ventura Co.	6- 1-21	2,822	rig heater
Continental Oil Co., No. 1 Red Mountain, Ventura Co..	7- 3-23	5,053	hd. sd. drlg.
General Pet. Corp., No. 1 Padre Canyon, Ventura Co..	15- 3-24	5,403	swabbing
C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co. ...	23- 3-24	6,016	br. sh. drlg.
Honolulu Oil Corp., No. 1 South Mountain, Ventura Co.	23- 3-21	6,600	hd. sd. drlg.
Calco Pet. Corp., No. 4 South Mountain, Ventura Co...	17- 3-20	3,034	sd. sh. drlg.
Associated Oil Co., No. 27 Hartman, Ventura, Ventura	22- 3-23	5,120	sd. sh. drlg.
Associated Oil Co., No. 25 V.L.W., Ventura, Ventura.	23- 3-23	7,055	resume work
Associated Oil Co., No. 28 Lloyd, Ventura, Ventura Co.	27- 3-23	5,850	fish. D.P.
Associated Oil Co., No. 78 Lloyd, Ventura, Ventura Co.	27- 3-23	4,695	cleaning out
Shell Oil Co., No. 89 Taylor, Ventura, Ventura Co. ...	30- 3-23	5,936	sd. sh. drlg.
General Pet. Corp., No. 17 Barnard, Ventura, Ventura	23- 3-23	5,770	hd. sh. drlg.
Continental Oil Co., No. 6 San Miguelito, Ventura Co..	24- 3-24	5,493	sd. sh. drlg.
General Petroleum Corp., No. 5 Rincon, Ventura Co...	tideland	2,828	O.S. drlg.
Surf Oil Co., No. 4 S.P., Rincon, Ventura Co.	8- 3-24	3,865	pump. 234 b.d.
Den Petroleum Co., No. 1 Devils Den, Kern Co.	20-25-19	3,103	br. sh. drlg.
Lube Oil Co., No. 1 Devils Den, Kern Co.	2-25-18	2,554	hd. sh. drlg.
The Texas Co., No. 1 Theta, Lost Hills, Kern Co.	11-26-20	1,986	cleaning out
Welport Oil Co., No. 16 McKittrick, Kern Co.	26-29-21	1,200	rig. to pump
Woodward, Hoke, No. 6 McKittrick, Kern Co.	11-30-21	1,317	P.B. 1,167
Peters Royalty Corp., No. 2 McKittrick, Kern Co. ...	32-29-22	1,621	hd. sd. drlg.
Continental Oil Co., No. 1 Wasco, Kern Co.	8-27-24	8,480	sd. sh. drlg.
Belridge Oil Co., No. 14-35 North Belridge, Kern Co...	35-27-20	7,221	sd. sh. drlg.
Belridge Oil Co., No. 62-27 North Belridge, Kern Co...	27-27-20	4,175	br. sh. drlg.
Dougan Oil Co., No. 1 Kern Front, Kern Co.	17-28-27	2,921	cmtd. 2,865
Republic Pet. Co., No. 16 Kern Front, Kern Co.	24-28-27	1,940	rig. to pump
National Oil Co., No. 3 Universal, Kern Front, Kern	11-28-27	1,986	pump. 150 b.d.
National Oil Co., No. 4 Universal, Kern Front, Kern	11-28-27	1,945	pump. 176 b.d.
Honolulu Oil Corp., No. 88 Kern Front, Kern Co.	8-28-27	2,921	rig. to pump
M. H. Whittier Co., No. 3 Kern Front, Kern Co.	16-28-27	2,848	rig. to pump
Cedar Oil Co., No. 1 Gill, Kern Front, Kern Co.	8-28-27	2,497	sd. sh. drlg.
Seakayden Oil Co., No. 3 Kern Front, Kern Co.	17-28-27	2,890	sd. sh. drlg.
Standard Oil Co., No. 2-9 Kern Front, Kern Co.	9-28-27	2,868	pump. 81 b.d.
Standard Oil Co., No. 3-9 Kern Front, Kern Co.	9-28-27	2,730	sd. sh. drlg.
Apex Pet. Corp., No. 10-1 Kern Front, Kern Co.	10-28-27	2,250	P.B. 2,190
McManus, Thomas, No. 2 Kern River, Kern Co.	2-29-28	131	sd. sh. drlg.
Roscoe & Stanley, No. 2 Premier, Kern Co.	29-27-27	2,695	redrlg. 2,545
Pramac Oil Co., No. 3 Premier, Kern Co.	22-27-27	1,275	sd. sh. drlg.
Ring Oil Co., No. 2 Knapp, Mount Poso, Kern Co. ...	28-26-28	1,556	sd. sh. drlg.
Petroleum Securities, No. 6 Mount Poso, Kern Co. ...	26-27-28	1,564	pump. 121 b.d.
Harp, E. J., No. 1 Mount Poso, Kern Co.	27-26-28	1,749	gr. sd. drlg.
Goldman, F., No. 2 Mount Poso, Kern Co.	35-27-28	981	sd. sh. drlg.
C. C. M. Oil Co., No. 1 Alford, Mount Poso, Kern Co.	35-27-27	1,048	sd. sh. drlg.
Magee, H. H., No. 1 Fruitvale, Kern Co.	23-29-27	3,040	sd. sh. drlg.
Western Gulf Oil Co., No. 34 Fruitvale, Kern Co.	21-29-27	6,321	br. sh. drlg.
Western Gulf Oil Co., No. 36 Fruitvale, Kern Co.	22-29-27	3,985	flow. 375 b.d.
Western Gulf Oil Co., No. 37 Fruitvale, Kern Co.	14-28-27	3,550	sd. sh. drlg.
Kasey & Associates, No. 1 Fruitvale, Kern Co.	23-29-27	1,401	sd. sh. drlg.
Omar Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,100	pump. 40 b.d.
Linderman Oil Corp., No. 1 Fruitvale, Kern Co.	28-29-27	4,222	pump. dry
Wood-Callahan Oil Co., No. 3 Mountain View, Kern Co.	25-30-28	2,165	sd. sh. drlg.
Trico Oil & Gas Co., No. 1 Mountain View, Kern Co..	13-30-28	5,000	dry; abd.
Hogan Pet. Co., No. 9 Porter, Mountain View, Kern Co.	29-30-29	6,098	acidizing
Buffalo Oil Co., No. 6 Mountain View, Kern Co.	19-30-29	512	sd. sh. drlg.
Standard Oil Co., No. 3 C. L., Mountain View, Kern Co.	13-30-28	5,040	cleaning out
Standard Oil Co., No. 4 Mabry, Mountain View, Kern	18-30-29	1,952	sd. sh. drlg.
Ohio Oil Co., No. 1-B Derby, Mountain View, Kern Co.	33-30-29	1,953	sd. sh. drlg.
Mohawk Pet. Co., No. 3 Hood, Mountain View, Kern..	30-30-29	8,576	deep test
Hillman & Long, No. 1 Mountain View, Kern Co.	34-30-29	4,773	Schist; abd.
Berry Holding Co., No. 4 Edison, Kern Co.	10-30-29	1,926	recmtd. 1,776
Buffalo Oil Co., No. 1 Edison, Kern Co.	24-30-29	785	sd. sh. drlg.
Johnson-Leaf Oil Co., No. 1 Edison, Kern Co.	24-30-29	1,525	redrlg. 606
Mohawk Pet. Co., No. 3 Earl, Arvin, Kern Co.	4-31-29	2,451	sd. sh. drlg.
General Petroleum Corp., No. 1 Arvin, Kern Co.	26-31-29	7,462	P.B. 7,395
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	7,760	sd. sh. drlg.
Associated Oil Co., No. 1 Rio Bravo, Kern Co.	30-29-25	8,232	sd. sh. drlg.
Standard Oil Co., No. 11-2 Greeley, Kern Co.	20-29-26	1,040	cmtd. 1,028
Shell Oil Co., No. 17 Caldwell, Round Mountain, Kern	7-28-29	1,515	P.B. 1,500
Trans-Line Oil Co., No. 1 San Emidio, Kern Co.	3-10-23	951	cleaning out
Union Oil Co., No. 1 San Emidio, Kern Co.	34-11-22	531	sd. sh. drlg.
Standard Oil Co., No. 9-1 Ten Section, Kern Co.	34-30-26	8,915	P.B. 8,122
Shell Oil Co., No. 34-29 Ten Section, Kern Co.	29-30-26	8,368	O.S. drlg.
Shell Oil Co., No. 78-30 Ten Section, Kern Co.	30-30-26	7,187	sd. sh. drlg.
Signal Oil & Gas Co., No. 1 Ten Section, Kern Co.	21-30-27	195	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	9,980	hd. sh. drlg.
C. C. M. Oil Co., No. 25-21 Midway-Sunset, Kern Co...	21-32-23	2,180	pump. 180 b.d.
C. C. M. Oil Co., No. 26-21 Midway-Sunset, Kern Co...	21-32-23	1,474	sd. sh. drlg.
C. C. M. Oil Co., No. 33-21 Midway-Sunset, Kern Co...	21-32-23	1,040	sd. sh. drlg.
C. C. M. Oil Co., No. 1-J Midway-Sunset, Kern Co. ..	21-32-23	2,095	P.B. 1,739
Hoyt, Otis, No. 4 Midway-Sunset, Kern Co.	7-11-23	1,801	O.S. drlg.
Alford, J. W., No. 7 Midway-Sunset, Kern Co.	25-12-24	2,785	rig. to pump
Hallmark Oil Co., No. 6 Fried, Midway-Sunset, Kern	25-12-24	984	sd. sh. drlg.
General Pet. Corp., No. 32-6 Midway-Sunset, Kern Co.	32-32-24	3,120	cmtd. 3,050
Shell Oil Co., No. 1 Midway-Sunset, Kern Co.	22-32-23	1,242	sd. sh. drlg.
Merritt-Annex Oil Co., No. 3 Midway-Sunset, Kern Co.	25-12-24	2,775	redrlg. 2,270
Standard Oil Co., No. 216-33-D Midway-Sunset, Kern.	33-32-24	2,830	sd. sh. drlg.
Gibson Oil Co., No. 4 O'Brian, Midway-Sunset, Kern.	6-11-23	3,065	completing
Goldman, Frank, No. 5 Midway-Sunset, Kern Co.	22-32-23	1,875	br. sh. drlg.
McGray, Robert, No. 1 Midway-Sunset, Kern Co.	22-32-23	2,201	pump. 245 b.d.
McGray, Robert, No. 2 Midway-Sunset, Kern Co.	22-32-23	2,435	P.B. 2,386
Surprise Oil Co., No. 6 Midway-Sunset, Kern Co.	36-32-23	1,285	idle
The Texas Co., No. 18 Midway-Sunset, Kern Co.	32-32-24	512	sd. sh. drlg.
Union Oil Co., No. 4 Williams, Midway-Sunset, Kern	22-32-23	2,122	bailing
Pattiway Oil Co., No. 1 Midway-Sunset, Kern Co. ...	12-11-24	780	sd. sh. drlg.
Oil Producers, Inc., No. 1 Midway-Sunset, Kern Co...	7-11-23	2,904	P.B. 2,730
Quality Oil Co., No. 2 Cypress, Midway-Sunset, Kern.	22-32-23	1,985	will deepen
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co. ..	22-32-24	3,730	P.B. 3,645
Reserve Oil & Gas Co., No. 33-1 Tejon, Kern Co.	33-11-19	4,989	idle
Reserve Oil & Gas Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,495	cleaning out
Reserve Oil & Gas Co., No. 33-3 Tejon, Kern Co.	33-11-19	4,431	cmtd. 4,381
Ohio Oil Co., No. 2 Tejon, Kern Co	21-11-19	6,662	reaming
Buffalo Oil Co., No. 1 Tejon, Kern Co.	5-10-19	1,774	idle
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,530	good O.S.
K.N.D.A., No. 4-18-J Kettleman North, Fresno Co....	18-21-17	9,400	P.B. 8,288
K.N.D.A., No. 25-20-J Kettleman North, Fresno Co....	20-21-17	8,560	gr. sd. drlg.
K.N.D.A., No. 21-30-J Kettleman North, Fresno Co....	30-21-17	8,849	P.B. 8,791
K.N.D.A., No. 36-28-J Kettleman North, Fresno Co....	28-21-17	3,622	sd. sh. drlg.
K.N.D.A., No. 63-28-J Kettleman North, Fresno Co....	28-21-17	8,480	cmtd. 8,300
K.N.D.A., No. 83-24-H Kettleman North, Fresno Co....	24-21-16	8,882	testing
K.N.D.A., No. 81-32-J Kettleman North, Fresno Co....	32-21-17	7,945	O.S. drlg.
K.N.D.A., No. 85-32-J Kettleman North, Fresno Co....	32-21-17	8,432	hd. sd. drlg.
K.N.D.A., No. 47-2-P Kettleman North, Kings Co.	2-22-17	7,608	flow. 370 b.d.
Standard Oil Co., No. 8-19-J Kettleman North, Fresno	19-21-17	7,561	sd. sh. drlg.
Standard Oil Co., No. 85-19-J Kettleman North, Fresno	19-21-17	8,530	sd. sh. drlg.
Standard Oil Co., No. 46-13-H Kettleman North, Fresno	13-21-16	9,597	fishing
Standard Oil Co., No. 38-33-J Kettleman North, Fresno	33-21-17	5,771	sd. sh. drlg.
Standard Oil Co., No. 78-3-P Kettleman North, Kings	3-22-17	4,040	sd. sh. drlg.
Standard Oil Co., No. 46-19-V Kettleman Middle, Kings	19-23-19	7,962	sd. sh. drlg.
Goodrum, C., No. 1 Dudley, Kings Co.	24-23-19	1,580	sd. sh. drlg.
Associated Oil Co., No. 2 Avenal, Kings Co.	35-23-17	1,029	recmtd. 937
Jergins Trust, No. 1 Indian Knob, San Luis Obispo Co.	26-31-12	1,473	idle
Calif. Producing Co., No. 1 Pattiway, San Luis Obispo	19-10-24	751	sd. sh. drlg.
United Oil Co., No. 1 Panorama, San Luis Obispo Co..	2-32-21	2,430	cleaning out
Union Oil Co., No. 1 Huasna, San Luis Obispo Co.	22-32-15	4,470	br. sh. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,310	redrlg. 2,000
Cholame Synd., No. 1 Chloame, San Luis Obispo Co...	10-25-15	3,687	cleaning out
Anderson, Amil, No. 1 Cholame, Monterey Co.	15-24-14	1,570	sd. sh. drlg.
The Texas Co., No. 1 King City, Monterey Co.	30-19- 7	1,697	sd. sh. drlg.
Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Shell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	5,973	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporary abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

The Texas Co., No. 2 Eureka, Humboldt Co.	22- 3- 1	7,265	sd. sh. drlg.
Amerada Pet. Co., No. 5 Drouin, Rio Vista, Solano Co.	26- 4- 2	174	sd. sh. drlg.
Associated Oil Co., No. 1 Sargent, San Benito Co.	5-12- 4	5,694	hd. sd. drlg.
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15- 1	5,100	gr. sd. drlg.
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,501	bl. sh. drlg.
Seaboard Oil Corp., No. 1 Terra Bella, Tulare Co.	16-23-26	2,640	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S. T. R.	Depth	Status—
Caminol Oil Co., No. 1 El Segundo, Los Angeles Co. ..	18- 3-14	5,580	sd. sh. drlg.
Caminol Oil Co., No. 2 El Segundo, Los Angeles Co. ..	18- 3-14	4,194	sd. sh. drlg.
Richfield Oil Co., No. 2 El Segundo, Los Angeles Co...	18- 3-14	6,411	sd. sh. drlg.
Richfield Oil Co., No. 4 El Segundo, Los Angeles Co...	18- 3-14	5,130	sd. sh. drlg.
Ohio Oil Co., No. 2 El Segundo, Los Angeles Co.	7- 3-14	6,720	sd. sh. drlg.
The Texas Co., No. 2-1 El Segundo, Los Angeles Co. ..	17- 3-14	5,688	sd. sh. drlg.
Republic Petroleum Co., No. 3 El Segundo, L. Angeles	18- 3-14	5,981	sd. sh. drlg.
Republic Petroleum Co., No. 4 El Segundo, L. Angeles	18- 3-14	4,862	sd. sh. drlg.
Royalty Service Corp., No. 1 El Segundo, Los Angeles	7- 3-14	1,273	sd. sh. drlg.
Union Oil Co., No. 1 El Segundo, Los Angeles Co. ...	18- 3-14	2,953	sd. sh. drlg.
Signal Finance Co., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	9,395	idle
C.C.M., Oil Co., No. 18 Torrance, Los Angeles Co.	31- 3-14	4,373	sd. sh. drlg.
Fullerton Oil Co., No. 4 Torrance, Los Angeles Co.	18- 4-14	4,420	O.S. drlg.
Hunt Oil Co., No. 1 Torrance, Los Angeles Co.	18- 4-14	4,761	reaming
Nelson Pet. Co., No. 2 Torrance, Los Angeles Co.	18- 4-14	3,420	pump. water
Keystone Consd. Oil Co., No. 1 Redondo, Los Angeles	8- 4-14	3,400	pump. 138 b.d.
Abram, John, No. 1 Redondo, Los Angeles Co.	18- 4-14	3,640	rigging up
McLaren & Associates, No. 1 Palos Verdes, L. Angeles	27- 4-14	3,992	cleaning out
So. Calif. Drilling Co., No. 1 Palos Verdes, L. Angeles	2- 5-14	1,350	sd. sh. drlg.
Shell Oil Co., No. 4 Rubel, Inglewood, Los Angeles Co.	8- 2-14	2,507	will deepen
Shell Oil Co., No. 47 Reyes, Dominguez, Los Angeles	33- 3-13	5,485	flow. 50 b.d.
Shell Oil Co., No. 89 Reyes, Dominguez, Los Angeles	33- 3-13	3,775	P.B. 3,676
Shell Oil Co., No. 90 Reyes, Dominguez, Los Angeles	33- 3-13	3,072	sd. sh. drlg.
Union Oil Co., No. 48 Callender, Dominguez, L. Angeles	33- 3-13	6,650	sd. sh. drlg.
Union Oil Co., No. 50 Callender, Dominguez, L. Angeles	33- 3-13	8,815	sd. sh. drlg.
Union Oil Co., No. 53 Callender, Dominguez, L. Angeles	33- 3-13	3,887	sd. sh. drlg.
Union Oil Co., No. 9 Carson, Dominguez, Los Angeles	33- 3-13	4,790	sd. sh. drlg.
Barnsdall Oil Co., No. 10 Rosecrans, Los Angeles Co..	20- 3-13	6,998	O.S. drlg.
Shell Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	6,706	sd. sh. drlg.
Hildon Oil Co., No. 1 Flood Control, Los Angeles Co..	11- 4-13	5,700	sd. sh. drlg.
Sharby Oil Co., No. 1 Playa Del Rey, Los Angeles Co..	22- 2-15	7,406	idle
Union Oil Co., No. 16 D.R., Playa Del Rey, Los Angeles	27- 2-15	750	cmtd. 750
Vincent Pet. Co., No. 1 Culver City, Los Angeles Co. ..	12- 2-15	6,238	idle
Barnsdall Oil Co., No. 1 Newhall, Los Angeles Co. ...	26- 3-17	6,215	O.S. cmtd.
General Pet. Corp., No. 3 Wilmington, Los Angeles Co.	4- 5-13	2,440	cmtd. 2,435
Getty Oil Co., No. 1 Wilmington, Los Angeles Co. ...	33- 4-13	3,580	pump. 390 b.d.
Bankline Oil Co., No. 22 Wilmington, Los Angeles Co.	33- 4-13	2,921	sd. sh. drlg.
Pacific Western Oil Co., No. 1 Wilmington, L. Angeles	33- 4-13	1,871	sd. sh. drlg.
Royalty Service Corp., No. 2 Wilmington, L. Angeles.	33- 4-13	2,495	sd. sh. drlg.
Gilmore Oil Co., No. 1 Wilmington, Los Angeles Co...	4- 5-13	3,240	sd. sh. drlg.
Honolulu Oil Corp., No. 1 Puente, Los Angeles Co.	15- 2-10	1,582	hd. sh. drlg.
Richfield Oil Co., No. 2 Nutt, Montebello, Los Angeles	5- 2-11	5,485	fish. D.P.
Richfield Oil Co., No. 1 Estrada, Montebello, L. Angeles	5- 2-11	3,143	cleaning out
Hobbs Pet. Corp., No. 1 Long Beach, Los Angeles Co..	29- 4-12	2,994	test. wet
Clayton, G. L., No. 1 Long Beach, Los Angeles Co.	32- 3-12	2,420	idle
Hathaway Co., No. 2 Fulton, Santa Fe Springs, L. A.	6- 3-11	4,650	P.B. 3,500
Union Oil Co., No. 100 Santa Fe Springs, Los Angeles	6- 3-11	9,051	sd. sh. drlg.
General Pet. Corp., No. 43-C Santa Fe Springs, L. A.	5- 3-11	3,710	cmtd. 3,710
Sibert Oil Co., No. 1 Santa Fe Springs, Los Angeles Co.	31- 2- 4	4,802	idle
Julian & Criswell, No. 1 Walnut, Los Angeles Co.	5- 2- 9	1,350	cleaning out
Drillers, Inc., No. 1 Whittier, Los Angeles Co.	22- 2-11	680	fish. D.P.
Terry, George, No. 2 Crane, Huntington, Orange Co. ..	2- 6-11	3,975	P.B. 3,958
Car-Fad Oil Co., No. 2 Huntington, Orange Co.	2- 6-11	3,879	P.B. 3,818
The Texas Co., No. 4 V.M., Huntington, Orange Co. ...	34- 5-11	4,440	sd. sh. drlg.
Orco Oil Co., No. 5 Huntington, Orange Co.	2- 6-11	3,600	redrlg. 2,587
South Basin Oil Co., No. 94 Huntington, Orange Co. ..	2- 6-11	4,000	reaming
Elliott Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	4,066	P.B. 4,002
M.F.K. Oil Co., No. 1 Huntington, Orange Co.	2- 6-11	3,306	P.B. 2,856
Lucky Strike Oil Co., No. 7 Huntington, Orange Co....	2- 6-11	3,480	rig. to pump
Pan-Coast Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	3,886	P.B. 3,820
Richfield Oil Co., No. 10 Fidelity, Huntington, Orange	34- 5-11	3,960	cmtd. 3,748
Richfield Oil, No. 1 Community, Huntington, Orange	34- 5-11	2,777	cleaning out
Richfield Oil Co., No. 1 Crowell, Huntington, Orange	34- 5-11	4,650	P.B. 3,986
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	5,067	br. sh. drlg.
Southern Cal. Drilling Co., No. 1 Newport, Orange Co.	2- 5-14	1,383	sd. sh. drlg.
Standard Oil Co., No. 62 Emery, West Coyote, Orange	13- 3-11	2,951	sd. sh. drlg.
Wilbur, V.R.G., No. 1 East Coyote, Orange Co.	20- 3- 9	3,095	redrlg. 2,640
Graham & Loftus, No. 1 East Coyote, Orange Co.	18- 3- 9	4,326	reaming
Associated Oil Co., No. 52 East Coyote, Orange Co. ..	18- 3- 9	3,487	will redrl.
Bartholomae Oil Co., No. 3 East Coyote, Orange Co....	22- 3-10	5,097	reaming
West Coast Ref. Co., No. 1 Santa Ana, Orange Co.	25- 3- 9	3,053	sd. sh. drlg.
Bachman Pet. Co., No. 1 Richfield, Orange Co.	29- 3- 9	3,487	sd. sh. drlg.
Union Oil Co., No. 29 Chapman, Richfield, Orange Co.	30- 3- 9	8,610	redrlg. 7,000
Union Oil Co., No. 39 Chapman, Richfield, Orange Co.	29- 3- 9	3,786	bailing
Union Oil Co., No. 40 Chapman, Richfield, Orange Co.	29- 3- 9	3,494	pump. 240 b.d.
Union Oil Co., No. 41 Chapman, Richfield, Orange Co.	29- 3- 9	3,430	sd. sh. drlg.
Union Oil Co., No. 42 Chapman, Richfield, Orange Co.	29- 3- 9	3,650	sd. sh. drlg.
Standard Oil Co., No. 2-11 Kraemer, Richfield, Orange	30- 3- 9	4,710	pump. 260 b.d.
Standard Oil Co., No. 2-24 Kraemer, Richfield, Orange	32- 3- 9	4,061	sd. sh. drlg.
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10- 5	2,815	hd. sd. drlg.

KANSAS

Week Ending January 30 (Descriptions are East unless marked otherwise)

Barton County

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. Anhy. 785 ft.; S.D. 2,856 ft.

Duwe & Brouk No. 1 Baker, NE SE SW Sec. 16-17-13w. C.O. 2,915 ft.

Freeborn et al No. 1 Sooy, NW NW NE sec. 27-18-12w. S.D. 200 ft.

Hendon Drlg. Co. and Morgan & Flynn No. 1 Robenseifer, C NW sec. 7-18-15w. Spudded and S.D.

Indian Terr. Illm. Oil Co. No. 1 Schrapel, SE SE NE sec. 26-20-11w. Fsg. 2,145 ft.

S. L. Parks No. 1 Peach, SE cor. sec. 24-16-14w. R.U.S.T.

C. L. Price et al No. 1 Kraft, SW NW NE sec. 10-17-11w. R.U.

Stanolind O. & G. Co. No. 2 Burmeister, NE NE SW sec. 33-19-11w. Drlg. 2,295 ft.

Butler County

Cox & McGinnis No. 1 Faulders, SW SW NE sec. 27-25-3e. Set 8-in. 2,155 ft.; K.C. 2,300 ft.

Ralph Wixson et al No. 1 Coulter, NW SW NE sec. 3-27-7. T.D. 3,008 ft.; D.&A.

Chase County

Propp et al No. 1 Fromm, SE cor. sec. 29-18-9e. Fsg. 2,440 ft.

Chautauqua County

Brosius et al No. 1 Morris, SW NW SW sec. 6-32-12. S.D. 1,173 ft.

Sagamore Oil Co. No. 1 Kingston, NE NE NW sec. 17-32-10. T.D. 1,439 ft.; 4,000,000 ft. gas; comp.

Cowley County

C. H. Cross No. 1 Cook, SW cor. sec. 6-32-6. Bartlesville 2,966 ft.; S.S.O. 3,000 ft.; 6 B.W.P.H., 3,000-23 ft.; drlg. 3,005 ft.

Simpson Oil Co. and Stanolind O. & G. Co. No. 1 Weigle, SW SW NE sec. 18-31-6. S.G. 2,471 ft.; S.O. 2,480-90 ft.; drlg. 2,650 ft.

Earl Wakefield et al No. 1 Knapp, SW SW NW sec. 2-34-5e. 50,000 ft. gas at 585-600 ft.; drlg. 1,725 ft.

Decatur County

Winkler & Koch No. 1 Vessey, C NW SE sec. 26-3-26w. Cd. 2,930-39 ft.; testing.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Simpson 4,790 ft.; Sil. 4,872 ft.; C.O. 4,944 ft.

Ellis County

Empire O. & R. Co. No. 1 Hall, SE cor. sec. 2-12-17w. U.R. 15-in. at 970 ft.

H. Jones Bros. et al No. 1 Phillips, SE SE NW sec. 9-15-17. H.F.W. 3,545-48 ft. D.&A.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Pay 3,694-98 ft.; swb. 48 B.O. and swbd. down; T.D. 3,699 ft.; small increase.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Topeka 2,655 ft.; Dodge 2,925 ft.; M.I. rotary.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. Anhy. 1,440 ft.; drlg. 2,290 ft.

Sunray Oil Co. No. 1 Befort, NE cor. sec. 11-14-20w. Drlg. 1,500 ft.

Grant County

Columbian Fuel Co. No. 1 Gray, C SE sec. 3-29-35w. Skidded rig 100 ft. south; R.L.R.

Greenwood County

Hollis et al No. 1 Boone, NW NE NE SW sec. 21-26-12. S.D. 1,130 ft.

Ohio Oil Co. No. 1 Schwab, SE SW SE sec. 9-24-10. Drlg. 840 ft.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Drlg. 3,555 ft.

Saco et al No. 1 Guthrie, NE NE NW sec. 8-22-2e. Wilcox 3,315 ft.; Sil. 3,388 ft.; T.D. 3,485 ft.; D.&A.

Haskell County

Helmerich & Payne No. 1 Meredith, C SW sec. 10-30-33w. T.D. 2,800 ft.; temporarily abd.

Kearney County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. Anhy. 1,900 ft.; T.D. 2,595 ft.; 1,400,000 ft. gas.

Kingman County

Shell Pet. Corp. No. 1 McMichael, C W½ W½ SW sec. 12-27-10w. Drlg. 2,250 ft.

Lane County

K. C. Bates No. 1 Bates-Nimocks, C NW NE sec. 16-16-28w. Anhy. 2,065 ft.; Topeka 3,587 ft.; S.D. 3,853 ft.

Logan County

Rose Spring Drlg. Co. et al No. 1 Wright, C SE SE sec. 12-15-35w. Anhy. 2,330 ft.; Ft. Riley 2,868 ft.; T.D. 2,909 ft.; to skid rig.

Lyon County

Young et al No. 1-A Murphy, SE NW NE sec. 32-21-11. Fsg. 1,380 ft.

McPherson County

Hutchinson O. & G. Co. et al No. 1 Berg, SW SW SE sec. 15-20-3w. B.R.

Smith et al No. 1 Larson, NW NW SW sec. 35-18-5w. M.I.M.

Meade County

Pacific Midwest Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. R.U.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. S.D. 2,200 ft.

Ness County

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. C.O. 3,325 ft.

Pawnee County

Kessler & Thier et al No. 1 Wallace, SE SE NW sec. 16-23-15w. Viola 4,005 ft.; Simpson, 4,090 ft.; Sil. 4,168 ft.; coring 4,180-90 ft.

Pratt County

H. V. Elwell et al No. 1 Fay, NW NW SE sec. 15-27-14w. Whipstock 2,580 ft.; W.O.C.

Reno County

Carlock et al No. 1 Brown Realty Co., NW NW NE sec. 32-22-10w. R.U.R.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. Drlg. 3,848 ft.

Helmerick & Payne No. 1 Benson, NE cor. sec. 5-25-6w. Set 12-in. 110 ft.; W.O.C. at 120 ft.

Helmerich & Payne et al No. 1 Evans, NE NE SE sec. 29-24-6w. M.I.M.

Helmerich & Payne No. 1 Stewart, SE SE NE sec. 16-24-6w. Chat 3,675 ft.; drlg. 3,932 ft.

Clyde Pulse No. 1 Payne, SW NW NE sec. 4-22-7w. U.R. 8-in. at 2,895 ft.

W. E. Witt et al No. 1 Wright, SE NE NE sec. 9-23-8w. Sil. 4,040-90 ft.; D.&A.

Rice County

Buckley No. 1 Bailey, SW SW NW sec. 19-20-6w. Fsg. 1,000 ft.

Carlock et al No. 1 Deweese, SW NW NW sec. 32-20-7w. S.D. 3,675 ft.

Continental Oil Co. et al No. 1 Michekls, NE NE SW sec. 12-18-8w. Cellar.

Dickey Oil Co. No. 1 Brotners, SE cor. sec. 1-21-7w. T.D. 3,567 ft.; D.&A.

L. E. Douglass No. 1 Coyne, NE SE SE sec. 24-21-8w. M.I.M.

Empire O. & R. Co. No. 1 Banterton, SE SW SE sec. 11-18-8w. K.C. 2,822 ft.; drlg. 2,840 ft.

Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. Spudded.

Indian Terr. Ill. Oil Co. No. 1 Fossey, SW SW SW NE sec. 31-20-10w. 8-in. 2,854 ft.; K.C. 3,045 ft.; S.O. 3,125 ft.; drlg. 3,280 ft.

T. C. Johnson No. 1 Shubert, SW cor. sec. 9-20-10w. Loc.

Union Oil & Refining Co. et al No. 1 Baker, SW SW NE sec. 33-20-6w. Cellar.

Rooks County

Basin Oil Co. No. 1 Baxa, NE cor. sec. 23-9-17w. S.D. 1,235 ft.

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6s-18w. S.D. 2,645 ft.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. T.D. 3,296 ft.; 1,500 ft. O.I.H. and 200 ft. W.I.H.

Jones Bros. No. 1 Wiss, NW cor. sec. 9-10-18w. Spudded.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. S.D. 3,422 ft.

Snowden & McSweeney No. 1 Hindman, C E½ NW sec. 35-17s-17w. K.C. 3,023 ft.; 2 B.O.P.H. at 3,095-3,101 ft.; set 8-in. to 3,082 ft. W.O.C.

Rush County

S. A. Murphy et al No. 1 Roth, NW NW SW sec. 21-16-18w. Rig.

Russell County

El Dorado Refining Co. No. 1 Scott, NW NW NE sec. 17-13-13w. K.C. 3,035 ft.; Cong. 3,317 ft.; H.F.W. 3,362-67 ft.; C.O. 3,395 ft.

Empire O. & R. Co. No. 1 Vaughn, SW cor. sec. 17-14-14w. Set 15-in. to 348 ft.

Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. Set 10-in. csg. 730 ft. W.O.C.

Getty, Inc., No. 1 Baxter, SE SE NE sec. 8-15-15w. Anhy. 892 ft.; drlg. 1,690 ft.

Shields et al No. 1 Gross, NW NW SE sec. 5-15-13w. Loc.

Thayer Drlg. Co. and Dee Miller, SW cor. sec. 10-13-15w. Sil. 3,210 ft.; Granite Wash 3,238 ft.; 5-in. 3,218 ft.; fsg. 3,251 ft.

Saline County

Ryan Consd. No. 1 Wuerth, SW SW NW sec. 28-14-2w. Drlg. 1,400 ft.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. Drlg. 225 ft.

Scott County

C. R. Blackman et al No. 1 Nolan, NW NW NE sec. 13-19-33w. Loc.

Sheridan County

O. A. Roberts et al No. 1 Corrick, C NW sec. 34-9-26w. Simpson 4,570 ft.; Sil. 4,580 ft.; S.D. 4,663 ft.

Stafford County

Empire Ref. Co. et al No. 1 Jordon, SW SW NW sec. 15-25-14w. Drlg. 4,045 ft.

Empire O. & R. Co. No. 1 O'Connor, NE cor. sec. 17-24-15w. Drlg. 2,497 ft.

Skelly Oil Co. et al No. 1 Kipp, SE SE NE sec. 27-25-14w. T.D. 4,250 ft.; P.B. 3,906 ft.; acidized; flowed 860 B.O. in 16 hours.; S.S.W.

C. E. Skiles et al No. 1 Hughes, SW cor. sec. 12-23-12w. Sil. 3,846 ft.; T.D. 3,848 ft. D.&A.

Stanolind O. & G. Co. No. 1 Rosacker, SW SW NE sec. 5-25-11w. Sil. 4,110-47 ft. D.&A.

Sumner County

Empire O. & R. Co. No. 1 Hoffman, NW NW SW sec. 27-34-1e. Drlg. 4,020 ft.

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. S.D. 3,755 ft.

Hapenny & Green et al No. 1 Evers, SE SE NE sec. 27-31-2. S.D. 519 ft.

Lario O. & G. Co. et al No. 1 Hall, NW SW NW sec. 11-35-1e. 6-in. 3,561 ft.; chat 3,565 ft.; H.F.W. 3,660 ft.; drlg. 3,735 ft.

Orcott & Stewart No. 1 Newton, SE cor. sec. 21-30-2. O.W.W.D.; S.D. 930 ft.

Rose Spring Drlg. Co. et al No. 1-A Rutter, C NW NW sec. 21-33-2e. Pot. 130 B.O. at 3,229 ft.; T.D. 3,238 ft.; 1,400 ft. W.I.H. in 12 hrs.; P.B. to 3,233 ft. F. 127 B.O. and 25 B.W. Comp.

E. B. Shawver et al No. 1 Bryan, C W½ W½ SW sec. 36-30-2w. B.R.R.

Lloyd, Study & Frost et al No. 1 fee, SE cor. sec. 31-34-1e. Set 7-in. 3,582 ft.; R.U.S.T.

Trego County

Black Gold Oil Co. No. 1 Allman, C SW SW sec. 34-14-21w. R.U.R.

Central Commercial Oil Co. No. 1 Burkett, C SW sec. 15-11-22w. O.W.W.D. C.O. 4,100 ft.

York State Oil Corp. No. 1 Gugler, SW cor. 36-12-21w. T.D. 3,839 ft; P.B. to 3,838 ft.; P. 125 B.O. and 104 B.W.; comp.

Woodson County

Ross & Marshall No. 1 Bresner, SW SW SE sec. 6-26-15. T.D. 1,523 ft. D.&A.

Reamer No. 1 Corn, NE cor. sec. 31-24-14. Drlg. 1,738 ft.

OKLAHOMA

Week Ending January 30

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1 Biscoe, SW SW SW sec. 28-8-22w. Drlg. by bit, 1,255 ft.

Cleveland County

Helmerich & Payne, Inc. No. 1 Glenn, C NW NE sec. 6-8-1w. Hunton, 6,713 ft.; drlg. 6,888 ft.

W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. Rig.

Coal County

Carter Oil Co. et al No. 1 Warne, NE NE NW sec. 31-3-9. Wilcox 5,840 ft.; T.D. 5,935 ft.; packer 5,778 ft.; showed sulfur wtr.; P.B. 5,450 ft.; W.O.C.

Continental Oil Co. No. 1 Breedlove, NW SW SW sec. 24-1-8. McLish 5,760 ft.; T.D. 6,022 ft.; fsg.

Continental Oil Co. No. 1 Daniels, SW NE SW sec. 27-1-9. Wilcox 7,161 ft.; T.D. 7,195 ft.; D.&A.

Continental Oil Co. No. 1 King, NE SW NE sec. 26-1-8. Wilcox 5,743 ft.; T.D. 5,762½ ft.; P.B. 836 ft. (cor.); F. 20 B.O. in one 30-min. head; P.O.P.

Continental Oil Co. No. 1 W. Kirby, SW SE SW sec. 23-1n-8e. Drlg. 4,433 ft.

Rawoldt & Couch No. 1 McMillan, SW cor. sec. 10-1s-8. Drlg. 905 ft.

Creek County

J. E. Crosbie, Inc. & Sinclair Prairie Oil Co. No. 1 Bailey, NE NW NW sec. 28-15-7. Drlg. 380 ft.

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. T.D. 2,870 ft.; S.D.

W. J. Sherry No. 1 Childers, SW SW NE sec. 2-15-7. Loc.

Garfield County

Arab Oil Co. No. 1 Harkendorf, NE cor. sec. 34-20-3w. Rig.

Garvin County

Ellison & Hammond No. 1 Selby, C SE NW sec. 24-2n-3w. T.D. 6,773 ft.; D.&A.

Hayes Drlg. Co. No. 1 Howell, NW SE NW sec. 34-1-1. Rlg.

Greer County

Bud Lewis et al No. 1 Webster, SW NE NE NE sec. 7-7-24w. T.D. 2,172 ft.; 1,350 ft. W.I.H.; S.D.

Hughes County

W. W. Bussett No. 1 Field, C NW SW sec. 11-9-11. S.D.

Carson Oil Co. No. 1 Lyter, NE NW SW sec. 31-8-12. T.D. 100 ft.; repairing rig floor.

Mcadams & Barnes No. 1 Koch, SW NE NE sec. 1-9-10. Dense 4,035 ft.; Del. 4,055 ft.; Wilcox, 4,075 ft.; T.D. 4,081 ft.; S.D.

Mid-Western Prod. Co. No. 1 Hill C SE NW sec. 13-9-9. Gilcrease 2,886 ft.; T.D. 2,887 ft.; est. 5,000,000 ft. gas, 800 lbs. R.P.

Southern Oil Co. No. 1 Buck, C NW SW SW sec. 21-8-10. R.U.S.T.

C. J. Wrightsman No. 1 Diamond, NE NE SE sec. 33-9-9. Second Cromwell 3,344 ft; T.D. 3,362 ft.; testing.

Kay County

G. A. Brown et al No. 1-A Harris, SW SW NE sec. 14-25-1e. S.D.

Helmerich & Payne No. 1 Constant, SW SW NE sec. 17-28-2w. Drlg. 4,530 ft.

Ritz Oil & Gas Co. No. 1 State, NW NE SW sec. 16-29-2w. Set 12-in. 242 ft.; T.D. 245 ft.; W.O.C.

Kiowa County

Argus Pet. Co. No. 1 Osborne, NW cor. NE sec. 9-7-16w. T.D. 1,225 ft.; fsg.

McWhirter & Francis No. 1 Padgett, NE NE NW SE sec. 3-5-17w. T.D. 511 ft.; S.D.

Latimer County

Cheyenne Oil Co. No. 1 Wilson, C SE SE sec. 15-5-18. T.D. 2,902 ft.; rng. 9-in. csg.; W.O.C.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. 10-in. 2,246 ft.; T.D. 2,340 ft.; S.D.

Lincoln County

Anderson-Prichard Oil Corp. No. 1 Colon, C N½ SE SW sec. 28-17-4e. Drlg. 912 ft.

Fleetborn Oil Corp. No. 1 Turner, NW NW SE sec. 28-17-5. T.D. 3,994 ft.; running rods.

Skelly Oil Co. No. 1 Laughlin, C SE NW sec. 29-17-3e. T.D. 1,800 ft.; testing.

Summit Drlg. Co. No. 1 Eakers, NE NE SW sec. 35-15-2e. First Wilcox, 5,129 ft.; T.D. 5,140 ft.; flowed 408 B.O.; comp.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. C.O. iron at 2,959 ft.

Harry Blackstock No. 1 Prince, SE NE SW sec. 11-17-3w. Set 13-in. 230 ft.; T.D. 245 ft. W.O.C.

Helmerich & Payne et al No. 1 Hasler, NW NW SE sec. 14-16-4w. Cd. from 6,511 ft.; second Wilcox 6,548 ft.; T.D. 6,575 ft.; tools moved out but hole not plugged.

Muskogee County

A. D. Spears et al No. 1 Robbins, NW cor. sec. 20-15-20. Turkey Mt. sd. 1,677-84 ft.; Arbuckle 1,710 ft.; T.D. 1,811 ft.; S.S.O.; S.D.

Okfuskee County

Harvey Oil Co. No. 1 Stewart, NE cor. sec. 28-10-9. Set 10-in. csg. at 61 ft.; S.D.

Osage County

Norbla Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. S.D. 150 ft.

Pawnee County

Forest Dev. Corp. No. 1 Greisel, C NW NE sec. 21-21-5. B.R. and M.I.R.

Forest Dev. Corp. No. 1 Otter, NE NW sec. 15-21-5. Second Wilcox 3,672 ft.; T.D. 3,760 ft.

Payne County

H. F. Young No. 1 Jenkins, SE NW SE sec. 4-17-3e. Drillers top Miss. 4,560 ft.; drlg. 4,595 ft.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Wapanucka 4,490 ft.; T.D. 4,526 ft. S.D.

Pontotoc County

Caloma Oil Corp. No. 1 Brentz, SE NE SW sec. 4-1-6. S.D. 503 ft.

W. A. Delaney and Boettcher O. & G. Co. No. 2 Alexander, SW NE SW sec. 24-4-7. Old T.D. 3,520 ft.; T.D. 4,500 ft.; P.B. 4,050 ft.; acidized; 26,000,000 ft. gas.

E. H. Moore et al No. 1 Muse, SW NE SE sec. 33-2n-7. Union Valley 2,960 ft.; Cromwell, 3,000 ft.; drlg. 3,060 ft.

Ramsey Pet. Co. No. 1 Johnson, NW SW SE sec. 9-3-7. Wtr. sd. 2,422-27 ft.; McLish 2,475 ft.; Dense 2,765 ft.; Wilcox 2,835 ft.; T.D. 2,845 ft.; P.B. to 2,390 ft.; acidized; swabbed 190 B.O. gross, 18 hrs.; bailing.

L. K. Sandback et al No. 1 Whittaker, NW NE SE sec. 31-4-6. Cellar.

Pottawatomie County

Mid-Continent Pet. Corp. No. 1 Logan, NE NE SE sec. 31-11-15. Shot off drill pipe at 3,252 ft.; P.B. 3,194 ft.; to set whipstock.

Seminole County

Carter Oil Co. et al No. 1 Simpson, SW SW NE sec. 7-8-8. Gil. 3,235 ft.; Wapa. 3,443 ft; Crom., 3,448 ft.; Caney, 3,595 ft. Drlg. ahead.

R. M. Purcell No. 1 Gilliland, SE SE SW sec. 24-11-7. Loc.

A. I. Spears No. 1 Keaton, NW cor. sec. 6-5-8. Rlg.

Paul Traugh No. 1 Williams, NE SE NE sec. 22-6-6. Senora 2,347 ft.; T.D. 2,361 ft.; P. 75 B.O. and 15 B.W. in 24 hrs.; P.B. 2,360 ft.; W.O.C.

Texas County

Allison & Barnhill No. 1 Bingley, SE SE NE sec. 30-2n-18. (Cimmaron Meridian). T.D. 2,919 ft.; P.B. to 2,750 ft.; shot; est. 5,000,000 ft. gas.

Washita County

L. P. McWhirter No. 1 fee, SW cor. sec. 34-8-19w. T.D. 1,754 ft. S.D.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. S.D. 1,190 ft.; T.D.

Carter County

Head & Straus No. 1 Simpson & Fell, NW NW SE sec. 5-1s-3w. Drlg. 1,695 ft.

Lyle-Wham Dev. Co. No. 1 Jackson, NE SW SW sec. 26-5s-1e. Mch. on loc.

Choctaw County

Cooper & Branstetter No. 1 Bell, C NW NE sec. 29-6s-17. T.D. 1,086 ft.; S.D.

Comanche County

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4-11w. Woodford 896 ft.; Hunton 1,752 ft.; drlg. 1,900 ft.

C. V. Morris No. 1 Young, SE NE SE sec. 24-3n-10w. T.D. 682 ft.; S.D. for csg. blk.

L. D. Wise No. 1 Cones, SE SE SW sec. 11-1n-10w. T.D. 2,156 ft.; S.D.

Cotton County

Phillips Pet. Co. No. 1 Warren, C NE NE SE sec. 1-5s-13w. T.D. 3,404 ft.; to make chemical test to shut off wtr.

Harmon County

Lloalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,980 ft.; s D.O.

Jefferson County

Buffalo Oil Co. No. 1 Crownover, SE SE NW sec. 21-6s-6w. Drlg. 442 ft.

Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. T.D. 1,282 ft.; S.D. for bits.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6e. H.F.W. 680-90 ft.; T.D. 745 ft.; S.D.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; P.B. 2,970 ft.; perforated csg at 1,539-99 ft. and 2,095-2,115 ft.; cmtd. perf.; flwd. 22 bbls. in 24 hrs. and "went dead"; S.D.O. Aug. 4.

W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft.; waiting for tools; will deepen.

Sinclair Prairie Oil Co. No. 1 Stockton SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; perf. csg. 5,817-35 ft. and 6,290-6,300 ft.; water rose 5,400 ft. in hole; S.D.O.

Marshall County

Magnolia Pet. Co. No. 1 Gardner, NE NW NW sec. 34-6s-6e. T.D. 3,247 ft.; S.D.O.

Stuart & Taylor No. 1 Chestnut, NE co sec. 23-8s-5e. O.W.D.D.; T.D. 781 ft.; U.R. 5 3/16 in. csg.

Murray County

Power Oil Co. et al No. 1 Lancaster Trust C SW NE sec. 10-1s-2e. T.D. 3,203 ft.; S.D. for rotary tools.

J. Ben Russell No. 1 fee, SE SE NW SW sec. 9-2s-3e. T.D. 930 ft.; U.R. 8¾-in. csg., 850 ft.

Stephens County

Carter Oil Co. No. 1 Harley, C NE NE sec. 24-2s-4w. Bldg. drk.

Jack Cohen No. 1 Pierce, NE NE NW sec. 24-2s-6w. T.D. 400 ft.; S.D. for fuel.

Coline Oil Co. No. 1 Johnson, SW SE NE NE sec. 1-2n-8w. T.D. 6,500 ft.; set 9-in. csg.; W.O.C.

H. J. Edwards No. 1 Frederick, SW cor NE SE NW sec. 31-2n-8w. T.D. 2,800 ft.; fsg.

Ed Parson No. 1 Olson, C SW SW sec. 21-2-8w. Tstd. mud, wtr. and S.O.; sd., odor oil and gas 6,856 ft.; T.D. 7,002 ft.; contract depth; S.D.

Tillman County

Indian Terr. Ill. Oil Co. No. 1 Hatler C SW NE sec. 32-2s-17w. T.D. 5,169 ft.; P.B. to 4,525 ft.; set 7-in. csg. at 4,414 ft.; drilled plugs, bailing.

Lynn Oliver No. 1 Rilling, SE SE NW sec. 22-1s-15w. Granite Wash 1,275-78 S.O.; T.D. 1,314 ft. S.D.

Shirley Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. T.D. 2,775 ft.; S.D.

LEGAL

Department of the Interior, U. S. Land Office, Las Cruces, New Mexico. Notice is hereby given that the SE¼ NW¼ Sec. 24, T. 17 S., R. 29 E., forty acres, in the Grayburg Oil and Gas Field, and the E½ E½, NW¼ NE¼, NE¼ NW¼ Sec. 25, N½ NE¼, S½ SW¼ and NW¼ SW¼ Sec. 26, T. 16 S., R. 31 E., N.M.P.M., 440 acres, in the Robinson Field, New Mexico, are offered to the responsible qualified bidder of the highest bonus per acre for lease under section 17 of the act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386, at a sale to be held in the United States Land Office, Las Cruces, New Mexico, at 10 o'clock, February 23, 1937. The minimum bid which will be accepted is $25 per acre for the land in Sec. 24 and $1.25 per acre for the land in the Robinson Field. The land in each field will be offered as a single unit but both units may be included in one lease, the drilling, producing, rental and royalty provisions to apply separately to each unit. The successful bidder must deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid and file the showing of qualifications to receive a lease required by section 7 of Circular 1386. The remainder of the bonus bid and the annual rental at the rate of $1 per acre must be paid prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

ARKANSAS

Clark County

Pat Carlin et al No. 1 Bierne, NE SE NE sec. 22-10s-12w. Drk.

John G. Wooten No. 1 Z. T. Sparkman, sec. 1-11-20. 7-in. cmtd. 560 ft.; arg. test.

Grant County

Wallace & Staples No. 1 W. F. Davis, SE SE NW sec. 23-6-15. Fsg. D.P. 2,580 ft.

Hempstead County

Birdwell et al No. 1 Duckett, SW NW SW sec. 24-13-24. S.D. 125 ft.

Root Pet. Co. No. 1 D. F. Jones, 330 ft. S and W, NE SW NE sec. 16-13-23. S.D. 3,740 ft.

Root Pet. Co. No. 1 Lucey, E. Drake, SE SE NW sec. 24-14s-24w. Loc.

Shephert & Todd et al No. 1 Smith, NW SW SE sec. 11-11-25. Drk.

W. E. Stewart No. 1 fee, SE NE NE sec. 31-12-23. Fsg. 3,945 ft.

Little River County

Roberts et al No. 1 Hall, sec. 22-13-29. T.D. 2,100 ft.; abd.

M. E. Sanderson No. 1 Pinning, sec. 6-13-30. Drlg. 300 ft.

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. S.D. 1,190 tf.

Miller County

Odell Hinson No. 1 Montana Realty Co., 330 ft. S and W NE NW NW sec. 3-17-28. Dropped drill pipe; S.D.; T.D. 5,325 ft.

River Leevy Oil Co. No. 1 Dean, NW SE sec. 24-15-26. T. D. 4,386 ft.; cg. 4,421 ft.

C. V. Lenz No. 7 Dale, O.W.D.D., sec. 34 15-26. Pumping and testg. T.D. 4,217 ft.

Nevada County

Benedum & Trees No. 1 Block, NE NE SE sec. 9-14-20. T.D. 3,685 ft.; fsg.

Benedum & Trees No. 2 C. C. Fincher, SW SW NE sec. 10-14-20. 7-in. set 1,258 ft.; W.O.C.S.

Benedum & Trees No. 4 C. C. Fincher, SE SW NE sec. 10-14-20.

Benedum & Trees No. 4 Grove, SE SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 5 Grove, NE SW NW sec. 10-14-20. T.D. 2,138 ft.; W.O.S.R.

Benedum & Trees No. 6 Grove, SW NE NW sec. 10-14-20. Drk.

Benedum & Trees No. 7 Grove, NW SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 8 Grove, SW SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 9 Grove, NE NE SW sec. 10-14-20. Drk.

J. C. Buckbee No. 1 Wortham, SW SW NW sec. 29-13-21. Drlg. 1,800 ft.

John R. Lewis No. 1 W. Haynie, SW SW NE sec. 5-14-20. Est. 15,000,000 ft. gas; 200 bbls. oil; S.D. 1,169 ft.; W.O.

W. E. Stewart No. 1 Mendenhall, cen. SE NW NE sec. 1-14-20. Loc.

Steel & Warmack No. 1 Wm. Haynil, SE SE NW sec. 6-14-21. T.D. 1,183 ft.; W. O.S.R.

Ouachita County

Lion Oil Co. No. 1 Blanch Levey, C W½ SW NW sec. 21-15-15. Cmtd. 16-in. 90 ft.; drlg. 1,900 ft.

Phillips Pet. Co. No. 1 W. Rose, SW NE sec. 27-15-15. 7-in. cmt. 4,957 ft.; T.D. 4,960 ft.; W.O.C.S.

J. D. Reynolds No. 2 P. C. Grayson, Lot 4, Blk. 10, Stephens Sur., sec. 21-15-19. H.F.O.; W.O.S.R.; T.D. 1,508 ft.

Pope County

Arkansas-La. No. 1 Smith, sec. 10-8n-21w. Drlg. 4,347 ft.

Pulaski County

Kilselman No. 1 fee, SE SW sec. 2-1-13w. T.D. 783 ft.; dry and abd.

Sevier County

C. J. Benkley No. 1 Luther Tabler, NW NE SE sec. 14-10s-29w. Drk.

Union County

Dietrich et al No. 1 Aaronson, NE SW NE sec. 3-18-16. R.U. and W.O.

McCreslen Oil Co. No. 4 L. Atkins, SE NW SE sec. 3-18-13. Comp.; pump 50 bbls. oil daily, 20 per cent S.W. T.D. 3,563 ft.

Fenn-Ark. Corp No. 1 W. N. Raulston, 330 ft. S and E, NW NW SE sec. 12-17-14. S.D. 2,901 ft.

S. H. A. Oil Corp. No. 1 H. D. Warren, NE SW SW sec. 10-17-14. Drlg. out cmt. 3,342 ft. and W.O.S.R.; T.D. 3,342 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

Ark.-La. Gas Co. No. 2 Teamer, NW SE SW sec. 13-23-16. Swab to test, T.D. 6,064 ft. (cor.).

J. Edw. Jones No. 1-B Sharp, 297 ft. N, 151 ft. W, C sec. 4-23-16. Drlg. 2,440 ft.

Lyons & Neely No. 1 Noel, SE cor. sec. 8-23-15. Drlg. 2,108 ft.

Lyons & Neely No. 2 Noel, SW SE SE sec. 8-23-15. Loc.

Magnolia Pet. Co. No. 10-A Caddo Lvy. Bd., NE NW sec. 21-23-16. 7-in. cmt. 5,985 ft.; T.D. 5,997 ft.; W.O.C.S.

Magnolia Pet. Co. No. 11-A Caddo Lvy. Bd., SW cor. sec. 21-23-16. R.U. and S.D.

Magnolia Pet. Co. No. 12-A Caddo Lvy. Bd., SE cor. sec. 21-23-16. S.D. 5,407 ft. high water.

Magnolia Pet. Co. No. 7 Foscue, NE cor. sec. 22-23-16. Drlg. 5,884 ft.

R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Drlg. 7,710 ft.

R. W. Norton No. 3 Starke, 660 S and W cen. sec. 16-23-16. Drlg. 252 ft.

Phillips No. 3 Rose McDonald, NE cor. sec. 17-23-15. Comp.; flowed 102 B.P.D.; T.D. 6,123 ft.

Standard Oil Co. of La. No. 1 J. R. Hardin, 660 ft. N and E, C sec. 16-23-16. Comp.; flowed 72 B.P.H.; T.D. 6,004 ft.

Standard Oil No. 2 J. R. Harden, NE NW NE sec. 16-23-16. Loc.

Standard of La. No. 1 Emma J. Parker, NE SE NW sec. 9-23-16. R.U.

United Gas No. 6 Brewer Unit, 655 ft. S and E, NW sec. 21-23-16. Comp.; flowed 32 bbls. 6 hrs.; T.D. 6,005 ft.

United Gas No. 5 fee 574, 655 ft. S and W. C. sec. 16-23-16. Comp.; flowed 37 B.P.H.; T.D. 5,988 ft.

United Gas No. 1-A Mitchell, 656 ft. N and W, SE cor. sec. 17-23-16. Loc.

United Gas No. 3 W. M. Mitchell, NE cor. 112-ac. tr., sec. 20-23-16. Comp.; flowed 26 B.P.H.; T.D. 5,930 ft.

United Gas Co. No. 4 W. M. Mitchell, NW cor. sec. 20-23-16. Loc.

United Gas Co. No. 27 Rodessa O. & L. Co., NE NW sec. 15-23-16. R.U.

United Gas No. 1 Stephens, 655 ft. S and W. NE sec. 20-23-16. Drlg. 6,018 ft.

N. LOUISIANA WILDCATS

Bienville Parish

Lide & Greer No. 1 Smelley, 220 ft. N, 160 ft. W, SE SW NE sec. 13-16-5. Cg. 6,625 ft.

McDowell et al No. 1 Locke, NE cor. sec. 9-15-10. S.D. 1,820 ft.; fuel.

Seaboard No. 1 McGee, 660 ft. N and E, C sec. 3-16-3. Cg. 7,534 ft.

Bossier Parish

Ark.-La. No. 1 W. H. Davis, 660 ft. S, 1,270 ft. E. NW NE NW sec. 8-17-11. T.D. 5,186 ft.; 7-in. cmt. 5,144 ft.

Arkansas-La. No. 1 R. Hardeman, SE cor. sec. 6-17-11. Loc.

Ark.-La. Gas No. 1 P. Potter, SW sec. 8-17-11. Comp.; 25,302,000 gas; T.D. 4,295 ft.

Arkansas-La. No. 1 Tom Wilson, SW sec. 8-17-11. Loc.

La. Pet. Corp. et al No. 1 Edwards Est., NW SW sec. 5-17-11. Drlg. 3,486 ft.

Haynes Drlg. Co. No. 1 A. J. Murff, NE SE sec. 35-17-12. Drk.

Plain Drlg. Synd. No. 1-B S. H. Bollinger, SE SW NE sec. 36-23-13. Drlg. 2,800 ft.

Tidwell et al No. 1 Natting, sec. 15-23-14. T.D. 2,954 ft.; S.D.

Triangle Drlg. Co. No. 1-I Skannal, NE cor. sec. 22-17-12. Cg. 5,142 ft.

Triangle No. 1-H Skannal, SE SW SW sec. 23-17-12. R.U.

United Gas No. 1 H. G. Freeman, SE cor. sec. 15-17-12. Fsg. 6,056 ft.

United Gas No. 1 Henderson, NE cor. sec. 36-17-12. 13-in. cmt. 297 ft.
United Gas No. 1-H A. C. Skannal, NE SE sec. 26-17-12. Drlg. 2,655 ft.

Caddo Parish

Paul Cooper No. 1 Rodgers, NW SW SW sec. 11-20-15. 5-in. cmt. 2,180 ft.
Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. S.D. 1,650 ft.; rig rep.
DeMaggo et al No. 1 Huckaby, SE NE SE sec. 26-22-16. Drlg. 620 ft.
Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15. 7-in. cmt. 8,307 ft.; W.O.C.S.
Interstate Drlg. Co. No. 1 E. Smith, SW SE SW sec. 35-21-15. Dry and abnd.; T.D. 1,628 ft.
B. F. Laney No. 1 Taylor, SW SE SW sec. 17-21-14. S.D. 800 ft.; rig rep.
Lawrence Potter No. 1 Head, NE NE sec. 26-21-15. S.D. 2,310 ft.
F. L. Luckett No. 1 Connell, SW NE sec. 10-20-15. 6-in. cmtd. 2,174 ft.; T.D. 2,203 ft.; blg. to test.
Maja Oil Co. No. 1 Hyman, 950 ft. W, 860 ft. N, SE cor. sec. 10-20-15. Drlg.
Maja Oil Co. No. 2 Self, SE NE SE sec. 10-20-15. Loc.
Matt M. Press No. 1 Keller, SE cor. sec. 10-20-15. T.D. 2,255 ft.; W.O.S.R.
Rodgers et al No. 1 Thompson, NW SW SW sec. 11-20-15. S.D. 1,740 ft.
Shreveport Oil Corp. No. 1 D. Muslow, SE section 5-20-15. T.D. 4,743 ft.; T.A.
Stanolind O. & G. Co. No. 8 Christian, SE NW sec. 27-21-15. Comp.; pump 10 B.P.D.; T.D. 1,612 ft.
Stanolind No. 116 Dillon, SE SE sec. 14-21-15. Drlg.
J. J. Thompson No. 1 Gamm, NE SW NW sec. 35-21-15. Cg. 2,150 ft.

Caldwell Parish

G. W. Zeigen et al No. 8 La. Cen. Lbr. Co., SE cor. sec. 4-14-2e. T.D. 1,765 ft.; dry and abnd.

Catahoula Parish

Balcones Corp. No. 1 T. J. Chisholm, 1,500 ft. N, 2,500 ft. W, SE cor. sec. 19-10-8e. R.U.

Claiborne Parish

Max Hirsch et al No. 1 C. O. Ferguson, 2,640 ft. N, 1,000 ft. E, SW cor. sec. 29-22-6w. Drlg. 5,005 ft.
United Gas et al No. 1 R. Simms, NW cor. sec. 32-20-5w. T.D. 5,640 ft.; taking Schlumberger.

De Soto Parish

Benedum & Trees No. 1 Clifton, NE NW sec. 33-13-12. Drlg.
Chamberlin et al No. 1 Lanier, 280 ft. N and E, SW NE sec. 29-11-11. Drlg.
Gulf Ref. Co. No. 36-A Jenkins, SE cor. sec. 2-12-12. Drlg.
Peral Oil Co. No. 1 Joyner, SE NW SW sec. 28-11-12. Cmtd. 8-in. 2,885 ft.; T.D. 5,897 ft.; prep. testg.
Rio Rajo Oil Co. No. 7 Prudhomme, SE cor. sec. 20-12-11. S.D. 1,250 ft.
Stillers et al No. 2 Jenkins, 330 ft. S and W, NE SE NW sec. 35-13-12. S.D. 2,503 ft.; fuel.
Vaughn Prod. Co. No. 1 Sample, 330 ft. N and E, SW NE SE sec. 24-11-14. T.D. 5,503 ft.; S.D.

Grant Parish

Cane River Prod. Co. No. 1 Swope, SW NW sec. 17-9-1e. T.D. 1,609 ft.; W.O.S.R.
Grant Oil Corp. No. 2 Holmes, 300 ft. N, 150 ft. E, SW NE SW sec. 17-9-1e. T.D. 1,609 ft.; W.O.S.R.
T. W. Tannin No. 1 Kees, SE sec. 18-9-1e. T.D. 1,609 ft.; W.O.S.R.

Morehouse Parish

S. D. Hunter No. 11 Allison, 4,402 ft. E. 2,423 ft. S, NW cor. sec. 1, in sec. 47-20-4e. Comp.; 1,000,000 gas; T.D. 2,215 ft.
Interstate Fee No. 56, NE cor. sec. 27-20-3e. 6-in. cmt. 2,345 ft.; W.O.C.S.

LaSalle Parish

Ark Fuel No. 14-B Urania, NE cor. sec. 18-10-2e. 7-in. cmt. 1,506 ft.

Ouachita Parish

Hope Prod. Co. No. 7 Call, NW cor. sec. 43-19-4e. R.U.
United Gas No. 2 Morris, SE sec. 36-19-3e. Loc.
United Carbon No. 7 Neston, NE cor. sec. 32-19-4e. Cmt. 6-in. 2,187 ft.; W.O.C.S.

Red River Parish

Gulf No. 25 Kennedy, NW cor. sec. 24-13-11. Drlg. 2,515 ft.
Peria Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 23-12-10. S.D. 2,800 ft.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-6e. Drlg. 9,021 ft.

Sabine Parish

Blue Lake Oil Co. No. 1 Delaney & Wheless, NW SW sec. 31-9-13. S.D. 2,037 ft.
Earl F. Fox No. 1 Blankenship, NE SE NW sec. 13-9-12. S.D. 1,952 ft.; fuel.
Posey Sisters Oil Co. No. 3 Burkett, NE cor. sec. 10-9-13. S.D. 3,234 ft.
Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; arg. tst.

Union Parish

Interstate Nat. Gas No. 16 Grayling, 660 ft. N, 1,375 ft. W, SE cor. sec. 20-21-4e. Comp.; 13,000,000 gas; T.D. 2,105 ft.
So. Carbon Co. No. 17 Grayling, SW cor. sec. 21-21-4e. R.U.
So. Carbon No. 18 Grayling, SE cor. sec. 20-21-4e. Loc.

Webster Parish

Magnolia Pet. Co. No. 5 J. Cox, SW SE sec. 23-21-10. Cg. 3,531 ft.
Ohio Oil Co. No. 1 S. P. D. Coyle, NW SE SW sec. 23-21-10. Loc.
Ohio Oil Co. No. 2 A. H. Gray Acct. No. 2. NW sec. 26-21-10. Drlg.
Ohio Oil Co. No. 2 A. J. Hodges, NE NW SW sec. 23-21-10. Drlg.
Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9. Fsg. D.S. 2,802 ft.
Standard Oil Co. of La. No. 1 E. Firdecker, 1,320 ft. E, 1,316 ft. S, NW cor. sec. 2-17n-9w. Cg. 6,213 ft.
Tide Water No. 1 L. Pipes, NE SE sec. 10-18-10. S.D. 5,799 ft.; fuel.
United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. S.D. 3,030 ft.; high water.
United Gas No. 1 Mixon, SE SW sec. 22-21-10. Drlg. 7,994 ft.

Winn Parish

G. W. Zeigen No. 9 La. Cen. Lbr. Co., SE NE sec. 20-13-1e. Drlg. 1,050 ft.

SOUTH LOUISIANA FIELDS

Ansela Butte—St. Martin Parish

Stanolind O. & G. Co. No. 1 Patin, sec. 46-9s-5e. 13⅜-in. csg. 1,514 ft.; T.D. 5,430 ft. (cor.); P.B. 2,658 ft.; W.O.C.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 13 State, sec. 17-22s-18e. S.D 4,010 ft

Bayou Bouillion—Iberville Parish

S. C. Yingling No. 1-A State, sec. 13-9s-8e. T.D. 3,272 ft. oil sd.; running csg.

Bayou Mallett—Acadia Parish

Superior Oil Prod. Co. No. 1 Savoie, sec. 47-7s-1e. Top sd. 6,983 ft.; T.D. 6,985 ft.; 7-in. csg. 6,980 ft.; swbg.

Caillou Island—Terrebonne Parish

Texas Co. No. 20 State, sec. 18-23s-20e. Drlg. sdy. sh. 3,596 ft.
Texas Co. No. 33 State, sec. 20-23s-20e. T.D. 4,830 ft.; P.B. and strkd.; drlg sh. 2,953 ft.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 2 Laws Realty Co., sec. 30-13s-10e. Drlg. sdy. sh 6,054 ft.
Pan American Prod. Co. No. 1 South Coast Corp., sec. 30-13s-10e. Drlg. sdy. sh. 5,150 ft.

Choctaw—Iberville Parish

Standard Oil Co. No. 9 Myrtle Grove, sec. 53-9s-11e. S.D. 160 ft.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 16 Sch. Ld., sec. 16-14s-13w. Set 10¾-in. csg.; T.D. 4,851 ft.; P.D. 4,440 ft.; fsg. for screen.
Burton Sutton Oil Co. No. 18 School Ld., sec. 16-14s-13w. Drlg.
Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 16-14s-13w. T.D. 4,714 ft.; recvd. 2,500 ft. of P.L.O. on D.S.T.; 9⅝-in. csg. 4,694 ft. Flowed oil and S.W.; plugging off bottom of hole.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-2e. Drlg.
Humble Oil & Ref. Co. No. 14 Community, sec. 29-10s-2e. Drlg. sh. 2,009 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 4 State, sec. 5-22s-16e. T.D. 5,342 ft.; sdtrkd. at 5,185 ft.; drlg. sd. 6,117 ft.

Four Isle—Terre Bonne Parish

Texas Co. No. 8 State. Drlg. sdy. sh 7,278 ft.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. 7-in. csg. 6,444 ft.; cd. salt 7,151-57 ft.; 1,021 ft. of 4⅝-in. csg. 7,157 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 23 State, sec. 37-23s-33e. 18⅝-in. csg. 541 ft.; W.O.C.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 17 O. H. Castle, sec. 14-9s-8w. Drlg.
Texas Co. No. 12 Nickerson, sec. 1-9s-8w. Dredge canal.
Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. Drlg. sh. 8,332 ft.
Union Sulphur Co. No. 2 Bel, sec. 12-9s-8w. T.D. 6,788 ft.; P.B. 5,271 ft.; sidetracked. T.D. 8,290 ft.; 5-in. csg. 8,282 ft. flwd. 200 bbls. oil; started making S.W.; reworking.
Union Sulphur Co. No. 1 McIver, sec. 14-9s-8w. Drlg. sh. 3,728 ft.
Union Sulphur Co. No. 10 Powell, sec. 29-7s-2w. T.D. 7,217 ft.; sdtrkd. at 6,899 ft.; drlg. S.W. sd. 7,556 ft.
Union Sulphur Co. No. 11 Powell, sec. 12-9s-2w. Drlg. sd. and sdy. sh. 6,673 ft.
Union Sulphur Co. No. 13 State, sec. 12-9s-8w. Drlg.
Union Sulphur Co. No. 15 State, sec. 13-9s-8w. Drlg.

Hackberry—Cameron Parish

W. T. Burton Oil Co. No. 1 R. L. Lewis, sec. 22-12s-10w. Drlg. sh. 4,141 ft.
Gulf Oil Corp. No. 22 Erwin, sec. 12-12s-10w. T.D. 6,190 ft.; 7-in. csg. 6,190 ft.; flwd. 638 bbls. of oil; started flwg. S.W.; W.O.
Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. S.D. 1,703 ft.
Stanolind Oil & Gas Co. No. 1 J. H. Duhon, sec. 27-12s-10w. Drlg. sd. and sh. 1,442 ft.
Stanolind O. & G. Co. No. 1 M. J. Muller, sec. 23-12s-10w. Drlg. sh. 3,130 ft.
Stanolind O. & G. Co. No. 18 School Land, sec. 16-12s-10w. Loc.
Superior Oil Prod. Co. No. 1 C. Hebert Estate, sec. 33-12s-10w. S.D. 2,583 ft.
Sutton Joint Interest No. 1 Portie, sec. 32-12s-10w. S.D. oil sd. 4,396 ft.; 7-in. csg. 4,388 ft.
Texas Co. No. 20 State, sec. 12-12s-10w. Drlg. sd. 7,286 ft.
Union Sulphur Co. No. 42 Walkins, sec. 13-12s-10w. Coring sd. 2,928 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 6 Banta, sec. 40-13s-9e. T.D. 6,801 ft; 7-in. csg. 6,861; perf. csg. 6,440-50 ft.; would not flow, shot with dynamite, retesting.
Herton Oil Co. No. 7 Banta, sec. 40-13s-9e. Drlg. sh. and sd. 1,350 ft.
Herton Oil Co. No. 4 Carter, sec. 38-13s-9e. Drlg. br. sd. and L. 6,636 ft.
A. U. Morrison No. 1 Matilda Plantation, sec. 70-13s-9e. Drlg. L. 6,200 ft.
Philtop O. & G. Co. No. 1 Eaves, sec. 70-13s-9e. Drlg.

Jennings—Acadia Parish

Cosmo Pet. Co. No. 5 Jennings Clement, sec. 46-9s-2w. T.D. 1,642 ft.; 4½-in. csg. 1,590 ft.; tstg. I.P. 50 bbls. net oil, 50 per cent S.W.
Lake City Oil Co. No. 2 Jennings Synd., sec. 46-9s-2w. R.U.
T. C. Markly No. 1 Gourney, sec. 42-9s-2w. R.U.
Shell Pet. Corp. No. 2 Community, sec. 40-9s-2w. T.D. 7,185 ft.; tried to blow-out; drill stem stuck; fsg.
Stanolind O. & G. Co. No. 18 Houssiere-Latrelle, sec. 47-9s-2w. Drlg. sd. 5,448 ft.
Superior Oil Prod. Co. No. 1 Iowa-Jennings, sec. 41-9s-2w. Drlg. sd. 5,028 ft.
Superior Oil Prod. Co. No. 2 Leckcit, sec. 42-9s-2w. Drlg. sd. 5,038 ft.

Lafitte—Jefferson Parish

Texas Co. No. 6 Lafitte, sec. 20-17s-24e. Drlg. 2,100 ft.
Texas Co. No. 6 Rigolettes, sec. 39-17s-24e. R.U.
Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. Loc.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State. Drlg. sd. and sh. 9,948 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6 LaFourche, sec. 11-8s-25e. Drlg. sd. 4,240 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Drlg. sd. 6,944 ft. (cor.).

Leesville—Lafourche Parish

Carter-Michael No. 1 E. S. Bernard, sec. 26-21s-22e. Drlg. sdy. sh. 5,821 ft.
Gulf Oil Corp. No. 1-A City of New Orleans, sec. 35-21s-22e. Drlg. sh. and L. 4,628 ft.
Gulf Oil Corp. No. 4 City of New Orleans sec. 25-21s-22e. T.D. 5,945 ft.; P.B. 1,078 ft.; to sdtrk.
Texas Co. No. 58 Leesville, sec. 27-21s-22e. 10¾-in. csg. 765 ft.; W.O.C.
Texas Co. No. 60 Leesville, sec. 27-21s-22e. R.U.

New Iberia—Iberia Parish

Wm. Helis No. 5 Bernard, sec. 54-12s-7e. T.D. 4,604 ft.; oil sd.; 7-in. csg. 4,496 ft. I.P. 23 B.P.H. through ¼-in. choke.
Wm. Hellis No. 6 Bernard, sec. 54-12s-7e. Drlg. sd. 1,307 ft.
Wm. Hellis No. 7 Bernard, sec. 54-12s-7e. Drk.
Wm. Hellis No. 4 Boliver, sec. 56-12s-7e. R.U.
Wm. Helis No. 4 Bullock & Burke, sec. 25-12s-7e. T.D. 4,505 ft.; P.B. and sdtrk.; drlg. sh. 3,514 ft.
Wm. Hellis No. 3 Sabatier, sec. 54-12s-7e. Abd. 3,133 ft.
Wm. Hellis No. 3 Schwing, sec. 57-12s-7e. R.U.
Kitos et al No. 3 Sealy, sec. 36-12s-7e. 9⅝-in. csg. 874 ft.; drlg. sh. 5,020 ft.
Texas Co. No. 1 Clementine, sec. 25-12s-1e. Drlg. sd. and L. 6,044 ft.
Texas Co. No. 3-B Hanzen, sec. 54-12s-7e. Oil sd. 4,818-27 ft.; no report.
Texas Co. No. 4-B Hanzen, sec. 54-12s-1e. Drlg. sd. 1,991 ft.

Port Barre—St. Landry Parish

Fan American Prod. Co. No. 3 Cormier, sec. 4-6s-5e. Drlg. sh. and L. 4,739 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 6-B J. W. Devilbiss, sec. 11-9s-4w. Drlg. sh. 8,033 ft.
Shell Pet. Corp. No. 6 Kratzer, sec. 12-9s-4w. 10¾-in. csg. 2,454 ft.; drlg. sh. 9,479 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. T.D. 5,068 ft.; S.D.

St. Martinsville—St. Martin Parish

Continental Oil Co. No. 1-A fee, sec. 18-11s-6e. O.W.D.D.; S.O.: P.B. and sdtrkd.; T.D. 7,985 ft.; P.B. 7,420 ft.; D.S. stuck; abd.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 20-9s-12w. S.D. 6,433 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 839 fee, sec. 20-9s-10w. 10¾-in. csg. 1,010 ft.; T.D. 3,932 ft.; 7-in. csg. 3,923 ft.; swabbing
Union Sulphur Co. No. 840 fee, sec. 29-9s-10w. Drk.
Union Sulphur Co. No. 841 fee, sec. 29-9s-8w. T.D. 4,456 ft.; 7-in. csg. 4,436 ft.; P.B. 4,440 ft.; testd. S.W.; fsg.
Union Sulphur Co. No. 842 fee, sec. 29-9s-10w. Drlg. gmb. and L. 5,062 ft.
Union Sulphur Co. No. 843 fee, sec. 20-9s-10w. Drlg. sh. 5,147 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 9-A Homeseekers Dev. Co., sec. 29-7s-2w. T.D. 8,314 ft.; testing.
Continental Oil Co. No. 10-A Homeseekers Dev. Co., sec. 29-7s-2w. T.D. 8,329 ft. 5⅝-in. csg. on botton; I.P. 152 B.P.D. through 5/32-in. ck.
Continental Oil Co. No. 11-A Homeseekers Dev. Co., sec. 29-7s-2w. Drlg. sh. 6,930 ft.
Continental Oil Co. No. 1-D Homeseekers Dev. Co., sec. 29-7s-2w. T.D. 8,342 ft.; P.B. to 3,600 ft.; drlg. sh. 6,621 ft.
Continental Oil Co. No. 2 P. O. Johnson, sec. 30-7s-2w. R.U.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 2 Harang, sec. 8-17s-20e. Drlg. 1,510 ft.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 13-11s-12e. T.D. 8,394 ft.; P.B. 7,701 ft.; drlg. sh. 8,123 ft.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. S.D. 5,047 ft.; laying gas line.

LEGAL

Call for Bids to Purchase Royalty Oil Accruing to the United States from the Lance Creek, Wyoming, Oil Field. Pursuant to the provisions of Section 36 of the act approved February 25, 1920 (41 Stat. 437), sealed proposals, in duplicate, will be received in the Office of the Secretary of the Interior, Washington, D. C., on or before noon on February 15, 1937, from responsible bidders for the purchase, for a period of three or five years, beginning April 1, 1937, of all royalty oil accruing to the United States from all productive formations from the surface to and including the Basal Sundance from Government lands in the Lance Creek, Wyoming, oil field. For the calendar year 1934 the total Government royalty oil from the Lance Creek field amounted to approximately 10,406 barrels; during 1935 it amounted to approximately 33,664 barrels; and during 1936, by months, it has been approximately as follows: January, 2,900 barrels; February, 3,484 barrels; March, 5,946 barrels; April, 5,917 barrels; May, 4,003 barrels; June, 2,848 barrels; July, 10,944 barrels; August, 6,256 barrels; September, 7,751 barrels; October, 7,234 barrels. The monthly figures listed hereinabove indicate that the average monthly Government royalty production for the period January to October, 1936, inclusive, amounted to approximately 5,747 barrels. During the periods mentioned the range in gravity was from 36 to 47 degrees A. P. I. The approximate gravity of oil from the Dakota sand is 45°, from the upper Sundance sand 38°, and from Basal Sundance sands 47°. Additional information may be obtained from the Director, Geological Survey, Department of the Interior, Washington, D. C., or the Supervisor, Geological Survey, Casper, Wyoming. Bids are invited upon two separate items, as follows: Item 1. All royalty oil for the period beginning April 1, 1937, and ending March 31, 1942. Item 2. All royalty oil for the period beginning April 1, 1937, and ending March 31, 1942. Bids must be in the following form: "For Item —— for the period beginning April 1, 1937, and ending March 31, 19—, (name of bidder) offers a premium of —— cents per barrel above the highest field price for oil of 40° A. P. I. gravity for the Salt Creek field, Wyoming, as published or offered on any basis of tank measurement reported in terms of capacity tables of not less than 97 percent by the principal purchaser of oil in said field, or if the highest field price for oil of 40° A. P. I. gravity in Oklahoma and Kansas, as similarly published or offered by at least two of the five principal purchasers of oil be higher than the said price for the Salt Creek field, said premium is offered above said higher price, the applicability of any such price to be determined by the Secretary of the Interior." Delivery of royalty oil will be made on the respective leaseholds without cost to the Government to the successful bidder or for his account. The leases provide that the lessee shall not be required to hold such royalty oil in storage longer than 30 days after the end of the calendar month in which said oil is produced. Payments for the royalty oil are to be made by check or draft drawn to the order of the Commissioner of the General Land Office and transmitted to the Supervisor, Geological Survey, Casper, Wyoming, on or before the last day of each month following the month in which delivery is made. The volume of said royalty oil will be determined in accordance with existing departmental orders and regulations regulating the measurement of Government royalty oil on the basis of 100 percent capacity tables in terms of 42 United States gallons of 231 cubic inches at a temperature of 60 degrees F. Each bidder must submit with his bid a bond in the sum of $750,000 or a certified or cashier's check or draft for that amount, payable to the order of the Secretary of the Interior, as a guarantee that he will, if successful, promptly execute a satisfactory contract and furnish an acceptable bond in the sum of $40,000, conditioned on a full and complete compliance with the terms of the contract. The Secretary of the Interior may accept any bid which in his judgment is most advantageous to the Government, but reserves the right to reject all bids whenever in his judgment the interests of the United States so demand. Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., the envelope to be marked plainly, "Bid on Lance Creek royalty oil." No bid received after the time herein fixed for submitting bids will be considered. (Sgd.) Harold L. Ickes, Secretary of the Interior. December 21, 1936.

Humble O. & R. Co. No. 1 Nordyke, sec 22. T.D. 6,850 ft.; 9⅝-in. csg. 6,843 ft.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg. S.W.; S.D.

Avoyelles Parish

Coastal Mineral Dev., Inc., No. 1 Purdy-Hess, sec. 25-2n-3e. Drk.

George Conover No. 1 Purdy-Hess, sec. 36-2n-3e. Drk.

Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Calcasieu Parish

D. D. Oil Co. No. 1 Lutcher Moore, sec. 1-8s-13w. Drlg. sh. 2,571 ft.

Wilfred Lahaye No. 1 Bass, sec. 9-10s 12w. S.D. 80 ft.

Cameron Parish

Magnolia Pet. Co. No. 1 Gray Hrs., sec 8-15s-14w. T.D. 2,902 ft.; drlg. sh. 5,097 ft.

Pure Oil Co. No. 1 Mallard Bay, sec. 22-13s-3w. 18⅝-in. csg. 1,499 ft.; 9⅝-in. csg. 7,906 ft.; drlg. sh. 9,442 ft.

Southern Sulphur Co. No. 2 State, sec. 29-15s-10w. S.D. 1,410 ft.

Union Sulphur Co. No. 1 J. O. Hebert, sec. 18-12s-8w. Spudded.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. T.D. 6,690 ft.; D.S. stuck.

Cavalier Oil Co. No. 1 Young, sec. 62-4s 1w. Abd. loc.

Evangeline Parish

La. Crusader Oil Co. No. 1 Hattie Haas, sec. 2-3s-5e. R.U.

East Feliciana Parish

Barnett Pet. Corp. No. 1 Tullis, sec. 34-2s-1w. R.U.

Cavalier Oil Co. No. 1 Mells, sec. 58-4s-1w. Drlg. sh. 2,491 ft.

East Feliciana Oil No. 1 West & Budding sec. 37-1s-1w. Spudded 15 ft. and S.D.

Iberia Parish

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft.; T.D. 5,100 ft.; set 10¾-in. csg. 5,095 ft.

Texas Co. No. 1-B State, Vermilion B sec. 16-15s-6e. Drlg. sd. and sh. 10,493 ft.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 13t 12s-11e. T.D. 2,240 ft.; reaming.

Jefferson Davis Parish

W. M. Naylor No. 2 Johnson-Bourdreaux, sec. 39-10s-3w. Drlg. sh. 7,621 ft.

Shell Pet. Corp. No. 1 Joe Sturdivant sec. 25-10s-4w. 10¾-in. csg. 2,616 ft T.D. 9,747 ft.; fsg.

Stanolind O. & G. Co. No. 1 Calcasieu Natl. Bank, sec. 28-7s-3w. Crg. water sd. 7,705 ft.

Stanolind O. & G. Co. No. 1 United Life Accident Co., sec. 16-11s-5w. S.D. high water.

Lafourche Parish

Fohs Oil Co. No. 1 State Lake, sec. 65-17s-19e. Moving in.

Wm. Helis No. 1 City of New Orleans sec. 19-23s-23e. Top salt 7,463 ft.; T.D. 7,465 ft. salt; making electrical test.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 25-32s-19. Drlg. sd. 3,022 ft

Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 34-21s-22e. T.D. 4,762 ft.; P.B. 1,920 ft; drlg sh 5,851 ft

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e Drlg sdy. sh. 4,414 ft.

Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. T.D. 1,420 ft.; 13⅜-in. csg. 303 ft.; drlg. sh. 1,560 ft.

St. Landry Parish

Superior Oil Prod. Co. No. 2 A. Savoie, sec. 26-8s-3e. 11¾-in. csg. 1,180 ft.; drlg. sd. and sh. 5,473 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Hefla Ld. Co., sec. 38-8s-5e. Drlg. hard L. 9,229 ft.

Texas Co. No. 9 St. Martin, sec. 21-8s-7e 18⅝-in. csg. 106 ft.; drlg. water sand 7,340 ft.

Texas Co. No. 3 State, sec. 14-10s-9e Bldg. drk.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. T.D. 10,268 ft.; reaming.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. Drlg. sh. 7,535 ft.

Shell Pet. Corp. No. 1-B Realty, sec. 18-17s-15e Coring sh. 9,117 ft.

Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 11,732 ft.; circulating with mud; well tried to blow out; fsg. for stuck D.S.; hole cleaned to 10,680 ft.; set cmt.; P.B. to 10,800 ft.; sdtrkd. at 10,800 ft.; T.D. 12,216 ft., 5-in. csg. 11,795 ft.; flowed est. 5,000,000 ft. of dry gas per day through ¼-in. ck.; C.P. 3,950 lbs.; T.P. 3,500 lbs. Tubing and csg. sanded up; cleaning out.

Drunella Oil Co. No. 1 Cardwell, sec. 41-13s-4e. Drlg. sh. 2,130 ft.

Stanolind O. & G. Co. No. 1 Fred Stovall 13⅜-in. csg. 1,980 ft.; T.D. 12,133 ft.; abd.

Gulf Oil Corp. No. 2 Pommer, sec. 40, H. &T.C. Sur. R.U.

Gulf Oil Corp. No. 2 Wilcox, H.&T.C. Sur., sec. 48. Drlg. sh. 4,739 ft.

Humble O. & R. Co. No. 2 Boyt, sec. 44, H.&T.C. Sur. Drlg. sh. 5,616 ft.

Humble O. & R. Co. No. 10 Broussard-Hebert, sec. 59, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 11 Broussard-Hebert, sec. 59, H.&T.C. Sur. Loc.

Humble O. & R. Co. No. 9 H. A. Grippon, H.&T.C. Sur., sec. 153. R.U.

Humble O. & R. Co. No. 25 Middleton, sec. 58, H.&T.C. Sur. Drlg. sh. 6,765 ft.

Humble O. & R. Co No. 7 B. White, J. McGahey Sur. Drlg. sh. 6,288 ft.

Humble O. & R. Co. No. 9-B White, J. McGahey Sur. Top sd. 7,127 ft.; coring 7,133 ft.

Humble O. & R. Co. No. 17 White, J. McGahey Sur. 9⅝-in. csg. 1,245 ft.; T.D. 7,027 ft.; P.B. 7,014 ft.; comp. for gas well.

Navarro Oil Co. No. 1 E. Drought, H.&T.C. Sur., sec. 46. Loc.

Sun Oil Co. No. 2 White, J. McGahey Sur. R.U.

Cotton Lake—Chambers County

Glenn H. McCarthy No. 8 Kilgore, Townsend Sur. T.D. 6,358 ft.; 5-in. csg. 6,311 ft.

Kirby Pet. Co. No. 1 W. D. Haden, Chambers County School Land. Sur. Bldg. road.

Salt Dome Oil Co. No. 1-B Lawrence, S. Barrow Sur. Drlg. sh. and sd. 4,025 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 1-A White, J. G. White Sur. No. 128; O.W.D.D. T.D. 9,055 ft.

Sun Oil Co. No. 1-B White, Wm. Mays Sur. R.U.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Iola Mae White, M. A. Carroll Sur. 10¾-in. csg. 1,136 ft.; T.D. 6,614 ft.; 7-in. csg. 6,605 ft.

Stanolind O. & G. Co. No. 4 State, due S of Sun Oil Co. No. 1 Chambers in Turtle Bay. T.D. 6,523 ft.; reaming.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 73 Davis, M. Young Sur. Drlg. sh. 2,102 ft.

Blue Ridge—Fort Bend County

Barnett Pet. Co. No. 1-B Blakely, Lot 7, Blk. E, Drew Sur. T.D. 3,876 ft. (cor.); rerunning screen.

Boling—Fort Bend County

Brewster Trustee No. 3 H. R. Farmer, J. Scott Sur. T.D. 4,284 ft.; rig up to pump.

H. K. Spear et al No. 1 Kasperek, Simon Miller Sur. T.D. 4,415 ft.; P.B. 3,740 ft. Pumped 25 bbls. of net oil and some S.W. per day.

Orchard—Fort Bend County

Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8. 13⅜-in. csg. 2,522 ft.; drlg. sh. 3,100 ft.

Gulf Oil Co. No. 50 Moore Germain Immg. Drlg. sh. 1,780 ft.

Gulf Oil Corp. No. 51 Moore, Mark Smith Sur. T.D. 508 ft.; running csg.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-B Cade, H. Denman Sur. Loc.

Stanolind O. & G. Co. No. 60-A Cade, M. Duncan Sur. Drlg. sh. 5,900 ft.

Stanolind O. & G. Co. No. 59-A M. Fitzsimmons Sur. T.D. 5,481 ft.; 7-in. csg. 5,477 ft.; I.P. 120 B.P.D. through 3/16-in. choke.

Dickinson—Galveston County

Coast Pet. Corp. No. 5 Maco Stewart, W. K. Wilson Sur. Drk.

Coast Pet. Corp. No. 6 Maco Stewart, W. K. Wilson Sur. Loc.

Diadem Oil Co. No. 1 Way, P. G. Merritt Sur. T.D. 8,099 ft.; 7-in. csg. 8,099 ft.; I.P. 470 B.P.D. through ¼-in. choke; T.P. 650 lbs.; C.P. 300 lbs.

Humble O. & R. Co. No. 14-A Stewart, W. K. Wilson Sur. Drlg. sh. 4,387 ft.

Humble O. & R. Co. No. 15-A Maco Stewart, W. K. Wilson Sur. Loc.

Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.

Greens Lake—Galveston County

Sun Oil Co. No. 6 W. A. Hughes, Wm. Scott Sur. Drlg. sh. and L. 4,379 ft.

Silsbee—Hardin County

Humble O. & R. Co. No. 1 Mrs. M. L. Kirby, G. W. Brooks Sur. Loc.

Republic Prod. Co.-Houston Oil Co. No. 5 Brooks, Geo. Brooks Sur. T.D. 6,980 ft.; 7-in. csg. 6,957 ft.; W.O.C.

Republic Prod. Co.-Houston Oil Co. No. 6 Brooks, J. N. Brooks Sur. Abd. loc.

Republic Prod. Co.-Houston Oil Co. No. 7 Brooks, G. W. Brooks Sur. Spudded.

Republic Prod. Co.-Houston Oil Co. No. 1 Ellery, J. Ellery Sur. Drlg. sh. 4,140 ft.

Sour Lake—Hardin County

Texas Co. No. 231 fee, Stephen Jackson League. R.U.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 D. A. Oates, C. Martinez Sur. Abst. 543. Drlg. sh. 2,445 ft.

Mykawa—Harris County

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

Pierce Junction—Harris County

Rio Bravo Oil Co. No. 1 Hooks, J. Hamilton Sur. Drlg. salt 3,100 ft.

South Houston—Harris County

Stanolind O. & G. Co. No. 1 Green, H.T.& B. Sur. No. 6, Tr. 134. 9⅝-in. csg. 1,507 ft.; T.D. 4,775 ft.; 5½-in. csg. 4,699 ft.; flowed 180 bbls. in 20 hrs. through ¼-in. choke.

Stanolind O. & G. Co. No. 2 J. C. Kelley, H.T.&B. Sur. No. 6. R.U.

Tomball—Harris County

Humble O. & R. Co. No. 5 H. S. Gebhard, W. Perkins Sur. Drk.

Humble O. & R. Co. No. 4 Hillegeist, J. House Sur. T.D. 5,591 ft.; 5½-in. csg. 5,590 ft.; I.P. 5 B.P.H. through 12/64-in. choke; T.P. 400 lbs.

Humble O. & R. Co. No. 1 Hutchins, J. Fruitt Sur. Coring sh. 5,570 ft.

Humble O. & R. Co. No. 3 Mueller, T. A. Duclose Sur. Drlg. sh. 1,173 ft.

Humble O. & R. Co. No. 15 J. D. Reid, C. Goodrich Sur. T.D. 5,547 ft.; 5½-in. csg. 5,542 ft.; I.P. 24 B.P.H. through ¼-in. choke.

Humble O. & R. Co. No. 1 Tomball Townsite, Wm. Hurd Sur. 9⅝-in. csg. 933 ft.; W.O.C.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 T. H. Crook, C. Williams Sur. Loc.

Humble O. & R. Co. No. 2 R. J. Peveto, R. J. Peveto Sur. Drk.

Humble O. & R. Co. No. 1 Tyrell-Combest Realty Co., A. Savery Sur. 16-in. csg. 214 ft.; top sd. 6,758 ft.; 7-in. csg. 6,774 ft.; flowed gas with spray of oil.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 1 Fitzhugh, McFaddin Sur. 10¾-in. csg. 1,861 ft.; drlg. sh. and L. 4,212 ft.

Fannett—Jefferson County

Gulf Oil Corp. No. 1 Junker, W. A. Smith Sur. Drlg. sh. and L. 2,115 ft.

Nome—Jefferson County

Shell Pet. Corp. No. 3 Carpenter, M. Peveto Sur. Drlg. sh. 4,815 ft.

Shell Pet. Corp. No. 4 Paggi, J. W. Kirby Sur. Moving in rig.

Sun Oil Co. No. 3 Long, J. Blair Sur. Drlg. sd. and sh. 5,993 ft.

Sun Oil Co. No. 1 A. J. Mouboules, J. Blair Sur. R.U.

Cleveland—Liberty County

Gulf Oil Corp. No. 4-C R. D. McDonald, C. Smith Sur. Spudded.

Hankamer—Liberty County

Gulf Oil Corp. No. 1 Bernice Hankamer. T.D. 4,331 ft.; S.D.

Hull—Liberty County

Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; S.D.

Gulf Oil Corp. No. 22 Baldwin, J. Devore Sur. T.D. 4,260 ft.; rng. csg.

Republic Prod. Co. No. 1 J. C. Baldwin, J. Devore Sur. Bldg. road.

Esperson—Liberty County

General Crude Oil Co. No. 24 Moores Bluff. Drlg. sh. and L. 3,577 ft. No report.

General Crude Oil Co. No. 26 Moores Bluff. R.U.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker, E. Hall Sur. 13⅜-in. csg. 1,260 ft.; 9⅝-in. csg. cmtd. at 6,500 ft.; T.D. 9,575 ft.; 7-in. csg. 9,575 ft.; perf. csg. 9,405-13 ft.; tstd. 7,500 ft. S.W. on D. S.T.; made squeeze job; perf. csg. 9,528-31 ft.; tstd. S.W.; making cmt. squeeze jobs.

Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur Top salt 796 ft.; base salt 2,099 ft; 18⅝-in. csg. 2,174 ft.; drlg. sd. 3,712 ft.

Markham—Matagorda County

Hamill and Hamill No. 6 Kountze, Henry Parker Sur. Drlg. sh. 2,837 ft.; no report.

Powers Prod. Co. No. 1-C Meyers, Wm Hadden Sur. Drlg. sh. 2,650 ft.

Turman Oil Co. et al No. 1 Hudson, H. Parker Sur. Drk.

Van Vleck—Matagorda County

Skelly Oil Co. No. 2 W. P. Johnson, M. Cummins Sur. Loc.

Skelly Oil Co. No. 2 Rugely, I.&G.N. Sur No. 8. Moving in rig.

Skelly Oil Co. No. 1 First Natl. Bank, I.&G.N. Sur. No. 7. R.U.

Ace—Polk County

Peyton Bros. No. 2-B Kirby & West, G. S. Thomas Sur. R.U.

Segno—Polk County

S. J. Ryan No. 1 Wing Est., I.&G.N. Sur. No. 15. R.U.

Greta—Refugio County

Hewitt & Daugherty No. 38 Lambert, Swisher Sur. Drlg. 4,430 ft.

United Prod. Co. No. 34 Lambert, Swisher Sur. Drlg. 3,937 ft.

Quintana-O'Connor—Refugio County

Illinois Pet. Corp. No. 1 Heard, Ximines Sur. Drlg. 5,430 ft.

Quintana Oil Co. No. 2 Bauer, Ximines Sur. Drlg. sh. 5,212 ft.

Keran—Victoria County

Gulf Oil Corp. No. 9 Keran, M. Delean Sr T.D. 5,800 ft.; 7-in. csg. 5,475 ft.; I.P. 20 B.P.H. through ¼-in. choke.

Placedo—Victoria County

Barnsdall Oil Co.-American Liberty Oil Co. No. 7 J. M. Pickering et al, A. Murray Sur. Cg. sd. 4,776 ft.; no report.

Barnsdall Oil Co.-American Liberty Oil Co. No. 8 J. M. Pickering, A. Murray Sur. Drk.

TEXAS

Week Ending January 30

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 4-B Maclemell, Smithers Sur. T.D. 3,524 ft.; 7-in. csg. 3,424 ft.; R.U. to pmp.

Humble O. & R. Co. No. 8 Joe Gutosky, Wm. C. White Sur. Drlg. sh. 2,826 ft.

Humble O. & R. Co. No. 10-B Hardy, J. E. Groce Sur. T. D. 4,214 ft.; I.P. 13 B.P.H. through ¼-in. choke; T.P. 470 lbs.; Cg. 160 lbs.

Humble O. & R. Co. No. 12-B Hardy, J. E. Groce Sur. Drlg. sh. 1,160 ft.

Hastings—Brazoria County

Humble O. & R. Co. No. 2-B Brown, Perry & Austin Sur., Lot 88. Top sd. 5,812 ft.; T.D. 6,060 ft.; 5½-in. csg. 5,995 ft.

Humble O. & R. Co. No. 1 Hoidale, Lot 16, B.B.B.&C. Sur. T.D. 6,080 ft.; 5¾-in. csg. 5,915 ft.; W.O.C.

Humble O. & R. Co. No. 2 P. A. Hoidale, Lot 16, B.B.B.&C. Sur. Drk.

Humble O. & R. Co. No. 1 King, H.T.&B. Sur. Drk.

Humble O. & R. Co. No. 1 Warring-Flint, Lot 15, B.B.B.&C. Sur. Drk.

Navarro Oil Co. No. 2 Callahan, Lot 5, H.T.&B. Sur. No. 29. Loc.

Navarro Oil Co. No. 1 Callahan, Lot 6, H.T.&B. No. 29. Loc.

Stanolind O. & G. Co. No. 4 C. A. Cannon, H.T.&B. Sur. 10¾-in. csg. 1,720 ft; W.O.C.

Stanolind O. & G. Co. No. 3 Drake, H.T. &B. Sur. No. 36. R.U.

Stanolind O. & G. Co. No. 2 T. C. Edwards, Wm. Henry Sur. Loc.

Stanolind O. & G. Co. No. 9 Ford, A.C. H.&B. Sur. No. 1. Drlg. sdy. sh. 5,285 ft.

Stanolind O. & G. Co. No. 10 Ford, A.C. H.&B. Sur. No. 1. Drk.

Stanolind O. & G. Co. No. 1 Legare, H.T. &B. Sur. No. 29. 10¾-in. csg. 1,690 ft.; T.D. 6,080 ft.; fsg.

Stanolind O. & G. Co. No. 1 Sheffield, H.T.&B. Sur. No. 29. T.D. 6,080 ft.; 7-in. csg. 5,795 ft.; I.P. 194 bbls. through ¾-in. choke.

Stanolind O. & G. Co. No. 3 Surface, B. B.B.&C. Sur. Drk.

Stanolind O. & G. Co. No. 1 Wagner, H. T.&B. Sur. No. 29. 10¾-in. csg. 1,695 ft.; T.D. 6,080 ft.; 7-in. csg. 5,811 ft.; I.P 270 bbls. in 11 hrs. through ¼-in. choke; T.P. 900 lbs.

Stanolind O. & G. Co. No. 8 Williams, A. C.H.&B. Sur. No. 1. Drk.

Windsor Oil Co. No. 1 Hirsch, B.B.B.& C. Sur. R.U.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 K. M. Gibson, J. W. Hall Sur. Top oil sd. 6,351 ft.; 9⅝-in. csg. 6,337 ft.; T.D. 6,366 ft.; I.P. 347 B.P.D. through ¼-in. choke; T.P. 2,350 lbs.; cg. 2,500 lbs.

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. Coring sd 7,552 ft

Manvel—Brazoria County

Gowles & Borsodi No. 4 Norvell Co., Inc., H.T.&B. Sur. No. 23. R.U. and S.D

Burton Drlg. Co. No. 2 Mortgage Ld. and Trust Co. Cen. Lot 102, A.C.H.&B. Sur. No. 92. Drlg. 430 ft.

Harrison and Abercrombie No. 2 Stratton Drlg. sh. 5,212 ft.; no report.

E. A. Stone No. 1 Nichols, E. Little Sur. Drk.

Texas Co. No. 5 Leider, H. N. Little Sur. T.D. 4,296 ft.; P.B. 4,065 ft.; W.O.C.

West Columbia—Brazoria County

Texas Co. No. 1 Hogg, G. Tennille Sur T.D. 2,872 ft.; P.B. T.D. 2,755 ft.; running screen.

Old Ocean—Brazoria County

Harrison and Abercrombie No. 3 Bernard River, Charles Breen Sur. 9⅝-in. csg. 6,070 ft.; T.D. 10,027 ft.; cmtd. 4,304 ft. of 7-in. csg. at 10,004 ft.

Heyser—Calhoun County

Humble O. & R. Co. No. 6 Elizabeth Welder, J. Maria Rios Sur. Loc.

Humble O. & R. Co. No. 5 E. H. Welder, J. M. Rios Sur. R.U.

Humble O. & R. Co. No. 7-A P. H. Welder, A. Sisneros Sur. T.D. 5,470 ft.; 7-in. csg. 5,470 ft.; tstd. gas; pulling screen.

Humble O. & R. Co. No. 8-A P. H. Welder, J. M. Rios Sur. Drk.

Humble O. & R. Co. No. 9-A P. H. Welder, A. Sisneros Sur. S.D. 5,478 ft.

Humble O. & R. Co. No. 9-B P. H. Welder, A. Sisneros Sur. T.D. 5,490 ft.; W.O.C.

Humble O. & R. Co. No. 10-B P. H. Welder, A. Sisneros Sur. Loc.

Portilla Oil Co. No. 5-C P. H. Welder, A. Sisneros Sur. Drk.

Anahuac—Chambers County

Gulf Oil Corp. No. 6 Knowles, sec. 48, H. &T.C. Sur. Drlg. sh. 6,930 ft.

Barnsdall Oil Co.-American Liberty Oil Co. No. 12 Pickering and Roos, S.A.&M.G. Sur. No. 5. T.D. 4,777 ft.; 7-in. csg. 4,765 ft.; comp.; no gauge.
Barnsdall Oil Co.-American Liberty Oil Co., Lot 4, S.A.&M.G. Sur. Loc.
Magnolia Pet. Co. No. 4 Sklar, S.A.&M.G. Sur. No. 7. R.U.
Ownby No. 4 Malek, S.A.&M.G. Sur. T.D. 4,770 ft.; 5½-in. csg. 4,762 ft.; swabbing.
Sun Oil Co. No. 5 Marek, Lot 89, S.A.&M.G. Sur. No. 8. Drk.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. 7-in. csg. 7,445 ft.; S.D. 8,306 ft.
Sun Oil Co. No. 7 Schlottman, J. F. Perry Sur. 10¾-in. csg. 162 ft.; W.O.C.

Louise—Wharton County

Pure Oil Co. No. 7 Kountze, Morris & Cummins Sur., sec. 19. Drlg. sd. and L. 4,190 ft.

Magnet—Wharton County

C. E. McDonald No. 1 Sweet, J. Smith & McKenzie Sur. T.D. 5,854 ft.; S.W. sd.; abd.

Pickett Ridge—Wharton County

Texas Co. No. 4 Nilson, I.&G.N. Sur. No. 37. Drlg. sd. 4,730 ft.

Spanish Camp—Wharton County

Felmont Oil Corp. et al No. 1 Lyle Logue, D. Wade Sur. Drlg. 6,000 ft.

Withers—Wharton County

Texas Co. No. 20-C Pierce, Caldwell Sur. Drlg. sd. and L. 4,304 ft.
Texas Co. No. 17-C Pierce, Wm. Pettus Sur. 7-in. csg. 5,551 ft.; P.B. 5,549 ft.; I.P. 58 bbls. in 12 hrs. through ⅛-in. choke.
Texas Co. No. 19-C Pierce, Wm. Pettus Sur. T.D. 5,571 ft.; 7-in. csg. 5,563 ft.; flowed oil and S.W.; P.B. 5,480 ft.; W.O.C.
Texas Co. No. 22-C Pierce, Wm. Pettus Sur. Drk.

GULF COAST WILDCATS

Austin County

R. L. Hopkins No. 1 J. W. Recnecke, J. Stephenson Sur. R.U.
W. H. Mitchell et al No. 1 F. Fenner Fitzgibbons Sur. S.D. 3,910 ft.; prep. to drill ahead.

Brazoria County

Beatty, Bowles and Borsodi No. 1 Truska Lot 4, Blk. 8, H.T.&B. Sur. 9⅝-in. csg. 6,430 ft.; drlg. sd. and sh. 9,704 ft.
C. B. Bunte No. 1 Fite, D. Talley Sur. 10¾-in. csg. 1,030 ft.; T.D. 7,013 ft.; 5-in. csg. 6,627 ft.; perf. csg. 6,489-6,501 ft.; flowing gas, wash wtr. and distillate through ⅛-in. choke.
Ohio Oil Co. No. 1 Hazel Roirt, D. McNeil Sur. No. 2. R.U.
Pure Oil Co. No. 1 P. M. Slade, S. F. Austin League. Loc.
Texas Co. No. 1 Robbins, J. W. Brougham Sur. 11¾-in. csg. 4,950 ft.; T.D. 6,813 ft.; cut drill pipe at 6,392 ft.; fsg.

Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 8, Matagorda Island. 13⅜-in. csg. at 1,830 ft.
Mills Bennett No. 1 J. W. Williams, M. Lopez Sur. T.D. 6,108 ft.; reaming.

Colorado County

Coyle-Concord & Sterling No. 1 Mary E. South, I.&G.N. Sur., sec. 41. T.D. 6,189 ft; 5½-in. csg. 6,187 ft.; P.B. 6,055 ft; set whipstock at 5,330 ft.; sidetracked at 5,349 ft.; S.D.
Eden Oil Co. No. 1 Trulia Wells, M. Whitting and Osborne League. Moving in rig.

Fayette County

McNeil Pet. Co. No. 1 Dybla, A. Thompson Sur. M.I.R.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart, Spillman Sur. 9⅝-in. csg. 7,707 ft.; T.D. 18,460 ft.; P.B. 3,526 ft.; prep. to complete as gas well.

Hardin County

V. S. Deskin No. 1 Mary B. Collier, O. C. Nelson Sur. Loc.
E. J. Kimball No. 1 Keitle Lbr. Co. Loc.

Harris County

Farrel and Cox No. 1 Bender, N. W. Travis Sur. S.D. 700 ft.
R. W. Ford et al No. 1 W. A. and O. C. Pruitt, G. Brooks Sur. Loc.
George Lawrence et al No. 1 Zoppa, Farwell Sur. 10¾-in. csg. 605 ft.; T.D. 6,525 ft.; P.B. to test sd. 6,206-26 ft.; stuck drill pipe at 1,500 ft.; S.D.
H. M. Harrell et al No. 1 F. N. Bullock, Charles Bowman Sur. Loc.
Stanolind O. & G. Co. No. 1 Warren Minerals, H.T.&B. Sur. No. 1. Drlg. sh. 4,719 ft.
Texas Gulf Prod. Co. No. 1 Gillespie and Garnsey, Simon Contreras Sur. Loc.

Jefferson County

Humble O. & R. Co. No. 1 Jefferson Ld. Co., C. Hillibrant Sur. Coring sd. and sh. 7,132 ft.
Sun Oil Co. No. 2 Broussard & Hebert T.&N.O. Sur. T.D. 8,217 ft.; 9⅝-in. csg. 8,190 ft.; perf. screen 8,211-16 ft.; washing in.

Lavaca County

Cole Pet. Co. No. 1 Reed-Noilkamper, A. Smothers Sur. S.D. 2,395 ft.
Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. S.D. 2,395 ft.

Liberty County

Kenco Oil Corp. No. 1 E. B. Pickett, H. T.&B. Sur. No. 10. T.D. 1,251 ft.; running 10¾-in. csg.

Matagorda County

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. T.D. 6,612 ft.; moving in csg.
Glenn McCarthy No. 1 Foley, sec. 19, Susan Perkins Sur. 10¾-in. csg. 2,008 ft. Drlg. sh. 3,085 ft.
J. G. Mayo and Smith and McDannald No. 1 E. L. Calhoun, David Rawls Sur. Drlg. sh. 6,720 ft.
Strake Pet. Co. No. 1 G. T. Sargent, L. E. Parker Sur. 13⅜-in. csg. 1,607 ft. T.D. 6,750 ft.; 9⅝-in. csg. 6,750 ft.; drlg. sh. 7,363 ft.
United North and South Development Co., J. S. Cotton Sur. Drlg. sh. 2,863 ft.

Montgomery County

Chapman No. 1 Foster, D. Pevy House Sur. 10¾-in. csg. 42 ft.; S.D. 3,622 ft.

Polk County

Mayo et al No. 1 Catline Mayo, J. G. Loving Sur. Rig.

Refugio County

Paul Meadows No. 1 Temple Lbr. Co., G. W. Main Sur. Drlg. sh. 3,100 ft.

Trinity County

Daniel E. Boone No. 1 Tullia, Wm. Watson Sur. S.D. 1,354 ft.
Cortez Oil Co. No. 1 V. and R. Kennedy, J. M. Prado Sur. R.U.

Tyler County

Republic Prod. Co.-Houston Oil Co. No. 2 Hurd, N. Hurd Sur. Spudded.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.
Roswell Oil Co. No. 1 J. Bosborn, J. Jordan Sur. S.D. 520 ft.

Waller County

Sumas Prod. Co. of Austin No. 1 J. J. Menker. 10¾-in. csg. 300 ft. Drlg. 760 ft.
H. E. Williams No. 1 T. C. Giddings Est., David Mouser Sur. Moving in rig.

Washington County

Smith & Schlinke No. 1 Woode, J. Clark Sur. S.D. 1,300 ft.

Wharton County

Sam Harrison and others No. 1 Byerly, E.T.R.R. Sur. No. 27. M.I.R.
Texas Co. No. 1 Kluck, Jos. Hyland Sur. R.U.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 1 Kate J. Edwards, 80 ft. W line, 330 ft. S line, Lot. 87. Lamar Townsite, Wm. Lewis Sur. Cg. 7,756 ft.

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. S.D.; repairs, 2,360 ft.
Helvetia Oil Co. No. 2 S. Pratt, 333 ft. SE and SW lines tr., Garza Sur. 46. Top Serp. 3,085 ft.; T.D. 3,460 ft. P.B. 3,085 ft.; S.D.
Hierholzer et al No. 1 fee, Sur. 5. R.U. and S.D.
Roberts et. al. No. 1 Elder, Sur. 190. Spudded.

Bandera County

A. T. Crane No. 1 Watson, Sur. 71. S.D. 2,035 ft.

Bee County

Renson & Jones No. 1 Ray, Anna Burk Sur. Cg. 496 ft.
W. C. McBride, Inc., No. 1 Brown & Hansen, J. Pace Sur. M.I.M.
Two Rivers Oil Co. No. 1 Hartzendorf, Geo. A. Kern Sur. Spudded.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. Drlg 447 ft.

Brooks County

California Co. No. 1 Jones, 19,800 ft. S line, 4,500 ft. W line, La Mestina Gr. Sd. 3,670-88 ft.; comp.; est. 300 B.P.D. fluid, 20 to 50% wash wtr. and mud; T.P. 150 lbs.; C.P. 550 lbs.
Texas Gulf Prod. Co. No. 1 Proctor, 330 ft. S and E lines, Blk. 2, sec. 20, Los Almos and Loma Blanca Surs. R.U.

Burleson County

M. R. Exploration Co. No. 3 Fountain, Wm. Raleigh Sur. M.I.M.

Caldwell County

Exploration Co. No. 1 E. Band, S. Seale Sur. Drlg. 2,433 ft.

Cameron County

Stapper Petroleum Corp. No. 1 Port Isabel Irrigation Co., Blk. 17, P.I.I.Co. Subd., Santo Gr. R.U.

DeWitt County

Southwestern Development Synd. No. 1 Poetter, O. Marshall Sur. M.I.M.

Duval County

Atlantic Ref. Co. No. 1 Hamilton, sec. 37. Loc.
Hiawatha Oil Co. No. 1 Southland Life Ins. Co., 330 ft. S and E lines, sec. 15, Agua Poquita Gr. D.S.T. 5,840-67 ft.; 660 ft. of oil in 15 minutes; sd. 5,845-67 ft. Set csg. 5,867 ft.; drill plugs to perf.
Humble O. & R. Co. No. 1 C. D. Sevier, Sur. 329. R.U.
Magnolia Pet. Co. No. 1 D.C.R.C., 330 ft. S and W lines, lse., sec. 902. Loc.
Oliver Oil Co. No. 1 Shaffer, Sur. 146. Drlg. sh. 1,317 ft.

Edwards County

I.T.I.O. No. 1 Love & Evans, sec. 66, Blk. 3, G.W.T.&P. Ry. Sur. (Workover). Prep. deepen from O.T.D. 3,002 ft. to 6,250 ft.
Plateau Oil Co. No. 1 R. L. Hatch, sec. 66, J. W. May Sur. S.D. 4,750 ft.

Fayette County

McNeil Pet. Co. No. 1 Dybola, A. Thompson Lge. R.U.

Goliad County

Rual Singer No. 1 C. Wood, Geo. Villa Sur. Spudding.
Sun Oil Co. No. 2 Fromme, L. Fulton Sur. Drlg. 5,196 ft.

Gonzales County

M. S. Holliday No. 1 Edwards, W. W. Page Lge. Drlg. 1,356 ft.

Guadalupe County

Felmont Oil Co. No. 1 Willman, J. Cantu Sur. Spudded in.
Lincoln Pet. Co. No. 1 Baenzinger, Mansola Sur. Set csg. 1,990 ft. Drlg. plugs.
Long & Ross No. 1 Feitz, Dunn Sur. T.D. 633 ft.; S.O.; S.D.

Hidalgo County

Dale Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 46, jurisdiction of Reynosa. Drlg. 1,892 ft.
Sun Oil Co. No. 1-A Sweeny Est., Lot 1, Wayne Wood Subd. No. 2. T.D. 6,598 ft.; stdg.

Jim Hogg County

Gifford Oil Co. No. 1 Armstrong, Sur. 43. Drlg. 577 ft.
S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 16, Sh. 3, Animas Gr. R.U.

Jim Wells County

Gifford Oil Co. No. 1 Armstrong, Sur. 43. Loc.
G. Tzelmelia (Putnam & Stewart) No. 1 Canales, C Blk. 32, Mosser Subd. (reinstated). S.D. 5,036 ft.

Karnes County

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. S.D. 460 ft.
Victoria Drlg. Co. No. 1 John Yanta, J. Hardaway Sur. Set serf. csg.; W.O.C.
Victoria Drlg. Co. No. 1 Wm. Yanta, J. Hardaway Sur. M.I.M.

Kerr County

S. W. Forrest No. 1 J. W. Baily, 1,000 ft. N line, 330 ft. E line, Brendle Sur. Drlg. 727 ft.

LaSalle County

W. H. Vernon No. 1 Las Abias ranch, 150 ft. N line, midway E and W lines, sec. 726. S.D. 800 ft.

Lee County

Pederson et al No. 1 Turner, David Hudson Sur. T.D. 6,560 ft.; milling 3,600 ft. to sdtrk.

Live Oak County

H. Coquat No. 1 L. Reagan, Santiago McGloin Sur. Drlg. 1,873 ft.
Dirks Bros. No. 1 Dilworth, 150 ft. S and E lines, 40-ac. tr., Refugio Sch. Lands Sur. R.U.
R. H. Feltner No. 2 Sanger, 330 ft. W line, 990 ft. N line, Sur. 385. Loc.
Hagen & Stewart No. 1 S. A. Joint Stock Ld. Bank, 800-ac. tr., John Turner Sur. D.&A. 1,608 ft.
Loma Oil Co. No. 2 Cardwell, 95-ac. tr., Sparks Sur. Loc.
Loma Oil Co. No. 1 Reagan, 1,800 ft. N highway, 350 ft. E line, 1,182-ac. tr., Turner Sur. Cg. 1,422 ft.
V. G. Schimmell No. 1 Geo. West, C 150-ac. tr., J. Poitevent Sur. 231. D.&A. 4,216 ft.

McMullen County

Big Rock Oil Corp. No. 1 Martin, Ueiting Sur. No. 6. Cg. 532 ft.
E. M. Jones No. 2 Ezell, 330 ft. W line, 990 ft. N line, 160-ac. tr., sec. 13, Fadden Sur. Sd. 1,276-87 ft.; tested S.W.; sd. 1,570-80 ft.; gas odor; test failed; D.&A. 2,318 ft.
Rowan & Hope No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. M.I.M.

Medina County

F. Brown No. 1 Bilhartz, J. Campbell Sur. 24. Set sur. csg. 200 ft.; W.O.C.
A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.
R. P. Whitfield No. 1 Odem, Henry Castro Sur. 177. Cg. 697 ft.
W. H. Wycoff No. 1 Bendele, 1,275 ft. W line, 150 ft. N line, Joe Barnhart Sur. 593. Drlg. 316 ft.

Nueces County

Allen & Seaboard Oil Corp. No. 2 Chapman, 660 ft. S and W lines, sec. 38. Drlg. 1,252 ft.
E. M. Jones No. 1 Cook, 2,500 ft. N line, 330 ft. E line, 546-ac. tr., Guadrilla Irr. Co. Sur. 139. Loc.
W. F. Morgan No. 1 Oliver Bird, 330 ft. S and W lines, 132-ac. tr., Oliver Sur. 162. D.&A. 6,009 ft.
Sloan & Green No. 1 Cassens, sec. 26, Longorio Sur. R.U.
Steve Paul No. 1 Smith, 1,650 ft. E line, 330 ft. S line, sec. 38, Flour Bluff Encinal Trs. Loc.
Baltic Drlg. Co. No. 1 Poenisch, Lot 2, Blk. 32, Flour Bluff Addn. (workover of former Hurlburt test). O.T.D. 6,250 ft.; R.U.; S.D.

Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&P. Sur. Drlg. 4,283 ft.

San Patricio County

Buckingham Oil Co. No. 1 G. Davis, Sec. 27. Loc.
W. B. Craig No. 1 Drainage Ditch, M. Remon Sur. Drlg. sh. 1,430 ft.
L. A. Douglas and J. O. Williams No. 1 Kokernot, 90-ac. tr., sec. 19. Drlg. 4,798 ft.
Eleanor Oil Co. No. 1 W. W. Toland, sec. 15, Blk. A, Coleman-Fulton Pasture Subd. Loc.
Golding & Fearis No. 1 Turner, 330 ft. S and E lines, Blk. 6, Masterson Subd. D.&A. 6,016 ft.
Windsor Oil Co. No. 1 Bissett, Tr. 1, Tivoli Subd., Crockett Sur. Loc.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr. 1, Porc. 79, J. of Camargo. Cg. 3,256 ft.
J. H. Brower No. 1 Saenz, Sur. 363. S.D. 150 ft.
F. Davenport No. 1 Kelsey-Bass, 534 ft. S line, N 585-ac. tr., 2,856 ft. E line, Porc. 37. Set 1,000 ft. of surf. csg.; no report.
Davenport-Slick-Urschel No. 1 Slick Est., Davenport ranch, sec. 485. Sd. 5,571-80 ft.; good odor of oil and gas; fsg; T.D. 5,607 ft.; D.&A.
Dodd Trustee No. 1 Wood Estate, Porc. 84. Cg. 1,317 ft.
R. A. Mitchell No. 2 Bass, Sur. 8, Porc. 75-77. Drlg. sh. 4,827 ft.
Moss & Heard No. 1 Ricaby, 1,500 ft. N of Highway No. 4, Porc. 83. Oil sd. L. 308-20 ft.; P.B. 1,318 ft.; tstd. wtr., little oil; P.B. 1,316 ft.; swbg. oil.
Sun Oil Co. No. 1 Orr, 330 ft. N and W lines, Porc. 103. Set csg. 94 ft.; T.D. 3,517 ft.; P.B. 2,679 ft.; tested S.W. at 2,130-40 ft.; S.D.

Webb County

O. W. Killam No. 1 fee, Sur. 1,690. Drlg. 527 ft.
Lu-Tex Oil Co. No. 1-A Lone Star Country Co., Blk. 26, Porc. 12, 13 and 14. Drlg. 1,521 ft.
Magnolia Pet. Co. No. 6 Garcia, Sur. 794. Sd. 2,019-25 ft., S.O.; sd. 2,025-33 ft., odor oil; set 7-in. csg. 2,021 ft.; drlg. 2,321 ft.
Mills Bennett Prod. Co. No. 1 Garza, 330 ft. S line, 2,198 ft. E line, sec. 711. Loc.
Morgan Kirkwood No. 1 Frost Natl. Bank, Sur. 734. T.D. 2,500 ft.; D.&A.
Nordan & Morris No. 1 Garcia, Sur. 1131. Loc.
Paul Meaders No. 1 Garcia, Blk. 12, Sur. 1,101 ft.; testing 1,727 ft.
Smith & Storey No. 1 Oppenheimer, Sur. 34. Drlg. 1,511 ft.
Smith & Taggart No. 1 Jones, Sur. 674. D.&A. 2,508 ft.
Wilcox O. & G. Co. No. 1 Dunbar, Sur. 2,292, J. Galen Gr. R.U.
Wilcox O. & G. Co. No. 1 Puig, Serna Blanca Pasture, Galan Gr., Sur. 1,183. Drlg. 5,526 ft.

Willacy County

Ruez-Morton, Inc., No. 1 F. Armendias, C Lot 9, Sh. 4, San Juan de Carricitos Gr. M.I. rig.
Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. R.U.
Shell Pet. Corp. No. 1 Yturria, Sh. 64, San Juan de Carricitos Grant (workover). T.D. 7,662 ft.; to drill deeper; R.U.

Zapata County

Allison et al No. 1 Bustamante, Sh. 10 Comitas Gr. Sd. 1,144-51 ft. Comp. 30 B.P.D.
Ivan Howard and R. F. Duggan No. 1 Cuellar Bros., Sur. 248. R.U.
Jennings No. 1 Martinez, Sur. 434. T.D. 150 ft.; S.D.
J. D. Long No. 1 Phelps, 200-ac. tr., Villa Gr. Oil sd. 1,593-97 ft.; set 5½-in. csg.; Sat. sd. 1,600-04 ft.; set csg.; W.O.C.
Mills Bennett Prod. Co. No. 1 Flores, Porc. 87. T.D. 2,506 ft.; D.&A.

Zavalla County

Wilcox O. & G. Co. No. 1 Gillman, sec. 11. Drlg. 914 ft.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 2-B McCampbell, Lot 8, Blk. 39. Set csg. 6,549½ ft. Prep. perf.
Atlantic Ref. Co. No. 2-C McCampbell, 330 ft. SE line, 1,650 ft. SW line, lse., Lot 9, Blk. 40. Perf. 6,541½-44½ ft. Comp. est. 6 B.P.H. on 9/64-in. ck.
Buckingham Oil Co. No. 2-A McCampbell, sec. 42, McCampbell Subd. Sd. 6,534-44 ft. Comp. est. 5 B.P.H. on ½-in. ck. Perf. 6,542-44 ft.
Buckingham O. Co. & Jones, Lots 13 and 14, sec. 40. Set surf. csg.; W.O.C.
Collins & Broughton No. 1 McCampbell, 330 ft. NE and NW lines, Blk. 10, McCampbell Subd. R.U.
J. Nelson No. 1 Riggs, 330 ft. NW line 213 ft. SW line, 6.46-ac. tr., Tra. 12 and 13, Blk. 16. Loc

Hilbig—Bastrop County

Joe E. Mills No. 1 Askew, 600 ft. NW line, 1,525 ft. SW line, 278.5-ac. tr., Wolfenberger Sur. T.D. 2,907 ft.; S.D.

Cosden—Bee County

Elwood & Young No. 3 Barnett, John Flores Sur. Sd. 3,636-53 ft.; S.O.; P.B. 3,589 ft.; T.D. 4,050 ft.; S.D.; W.O.O.

Plummer—Bee County

W. C. McBride No. 1 Plummer, 34-ac.

tr., sec. 33, Plummer-Chessman Sur. Loc.

Ray--Bee County

J. A. West No. 1 Geo. Ray, Blanchard Sur. Drlg. 220 ft.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm.Singer, Blk. 8, Sur. 436, Sd. 515-20 ft.; T.D. 562 ft.; S.D.

Branyon—Caldwell County

Adams & Lyles No. 3 Ellison, D. Cooper Sur. Cg. 2,047 ft.
R. B. Byrd No. 1 McGee, J. A. Neal Sur. Drlg. 212 ft.
Colby O. Co. No. 2 McCrory, 20-ac. tr., J. Neil Sur. Loc.
Lincoln Pet. Co. No. 2-B Branyon, Cooper Sur. Comp., no gauge; T.D. 2,206 ft.
Mee, Ames & Mee No. 2 Lancaster, D. Cooper Sur. M.I.M.
Strickland No. 1 Calliham, J. R. Miller Sur. Drlg. 1,821 ft.
Taylor Pet. Co. No. 1 Caldwell County, 4 ac. tr., D. Cooper Sur. Drlg. 566 ft.
Whisenant & Trenchard No. 1 Young, J. R. Miller Sur. Drlg. plugs 2,225 ft.

Charamousca—Duval County

X. V. Duncan No. 3 Worden-Drought, 3,625 ft., El. 334 ft. NL, Sur. 151, D.S.T. 1,527-33 ft.; 500 ft. oil in 10 min.

Colmena—Duval County

Conservative Oil Co. No. 2 D.C.R.C.-Sent. 133 ft. N Eline, 1,200 ft. SE line, Blk. 1? sec. 51. S.D. 1,544 ft.
J. E. Thomas No. 1 D.C.R.C., 80-ac. tr., sec. 55. Cg. sdy. sh. 2,127 ft.

Driscoll—Duval County

Continental Oil Co. No. 13-A Sevier, Su 448. M.I.M.

El Mesquite—Duval County

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

Government Wells—Duval County

Magnolia Pet. Co. No. 13 Johnson, Sur. 44. Cg. 2,317 ft.
Ralph Ogden No. 10 B.C.C., N½, S½, Sur 135. T.D. 2,874 ft.; D.&A.
San Diego Oil Corp. No. 5 Bennett, 330 ft. N and E lines, SE¼, SW¼, Sur. 44. T.D. 2,405 ft.; swbg. sd. 2,351-65 ft.
Southwest Drlg. Co. No. 1 Hahl, Sur. 64. Set csg. on sd. 2,537 ft.; T.D. 2,544 ft. Comp. est. 50 B.P.D.
Southwest Drlg. Co. No. 2 Hahl, Sur. 64. R.U.
J. T. Stover No. 2 Hester, Sur. 47. Drlg. 2,287 ft.

Hoffman—Duval County

Bridwell Oil Co. No. 2 Hoffman, 80-ac. tr., Sur. 111. Testing 2,812 ft.
Bridwell & Gorman-Yoakam No. 3 Robles, sec. 68. T.D. 2,822 ft. Comp. 292 B.P.D.
Bridwell & Gorman-Yoakam No. 4 Robles, sec. 68. Drlg. 2,732 ft.
Plymouth Oil Co. No. 4 Hoffman, sec. 117. Loc.

Kohler—Duval County

Chiquita Oil Co. No. 1 Peters, 162-ac. tr., Sur. 162. Loc.
Humble O. & R. Co. No. 54-A Kohler, 330 ft. N and E lines, sec. 164. Drlg. sh. 2,434 ft.
Humble O. & R. Co. No. 3 Peters, sec. 398. Flowing 10 bbls. fluid for 17 hrs., 36 per cent water. T.D.
Rio Bravo Oil Co. No. 1 Peters, Sur. 397. Sd. 2,632-38 ft. tested S.W.; D.&A.
Sun Oil Co. No. 1 Peters, 330 ft. S and W lines, Sur. 161. Set csg. 2,646 ft.; W.O.C.
Windsor Oil Co. No. 5-B Peters, Sur. 34. Loc.

Labbe—Duval County

Magnolia Pet. Co. No. 2 Labbe ranch, 990 ft. S and W lines, sec. 1. Sd. 2,904-10 ft.; D.S.T. 290 ft. P.L.O. in 10 min.; set 7-in. csg. 2,910 ft.; deepened to 2,915 ft.; tested S.W.

Loma Novia—Duval County

Duval Oil Corp. No. 28 Bishop, sec. 57. Drlg. 220 ft.
Eastern Texas Prod. Co. No. 5 Hubbard, Sur. 71, R.U.
Hamil & Smith No. 2 Ruiz, Sur. 41. Drlg. 1,114 ft.
Humble O. & R. Co. No. 18-B Hubbard, Sur. 83. Sd. 2,740-60 ft. Comp. 31.4 B.P.H. on ¼-in. ck.
Humble O. & R. Co. No. 23-B Hubbard, sec. 42. Comp. 29 B.P.H. on ½-in. ck. T.D. 2,765 ft.
Humble O. & R. Co. No. 26-B Hubbard, Sur. 42. M.I.M.
Humble O. & R. Co. No. 32-B Hubbard, Sur. 72. Loc.
Humble O. & R. Co. No. 64-B Hubbard, E½, sec. 42. T.D. 2,783 ft. Comp. 5 B.P.D. on pump.
Humble O. & R. Co. No. 20 Ruiz, Sur. 553. Sd. 2,723-35 ft. Comp. 6.82 B.P.H. pumping.
Humble O. & R. Co. No. 21 Ruiz, Sur. 553. T. D. 2,734 ft.; R.U. to pump.
Humble O. & R. Co. No. 22 Ruiz, sec. 553. Loc.
Humble O. & R. Co. No. 12 Vela, sec. 42. Drlg. 50 ft.
Magnolia Pet. Co. No. 10 Herbst, Sur. 41. T.D. 2,937 ft. D.&A.
Magnolia Pet. Co. No. 54 Hahl, Sur. 67. Comp. 3,000,000 ft. gas.; T.D. 2,754 ft.
Magnolia Pet. Co. No. 55 Hahl, Sur. 67. Drlg. 2,045 ft.
Magnolia Pet. Co. No. 11 Herbst, Sur. 70. Drlg. 2,732 ft.
Rowan Oil Co. No. 4-A Hubbard, Sur. 71 M.I.M.
Stieren Oil Co. No. 1 Wright, Sur. 72. Cg. 2,412 ft.
Texas Co. No. 19 Bishop, Sur. 57. Comp. 87 B.P.D.; T.D. 2,585 ft.
Texas Co. No. 1 L. C. Morris, sec. 133. R.U.

Lopez—Webb—Duval Counties

Cox & Hamon No. 23 Peters, Sur. 322. Comp. 15 B.P.H.; T.D. 2,151 ft.
Gem Oil Co. No. 2 Peal, Sur. 72. M.I.M.
Humble O. & R. Co. No. 1 D.C.R.C., Sur. 901. Loc.
Humble O. & R. Co. No. 4-C, D.C.R.C. Sur. 901. Sd. 2,077-91 ft.; comp. 2.76 B.P.H. on ¼-in. ck.
Humble O. & R. Co. No. 5-C D.C.R.C. Sur., 901. T.D. 2,103 ft.; comp. 34 B.P.H.
Humble O. & R. Co. No. 6-C D.C.R.C., Sur. 901. Set csg. 2,117 ft.; W.O.C.
Magnolia Pet. Co. No. 1 D.C.R.C. Sur. 902. T.D. 2,400 ft.; comp. 2,066 ft.; est. 25,000,000 ft. gas.
Magnolia Pet. Co. No. 30 Peal, Sur. 383. Sd. 2,105-17 ft.; comp. 147 B.P.D.
Sierra Oil & Roy. Co. No. 5 Billings, 120-ac. tr., Sur. 113. Comp. 480 B.P.D.; T.D. 2,218 ft.
Magnolia Pet. Co. No. 31 Peal, Sur. 383. T.D. sd. 2,212 ft.; comp. 5,000,000 ft. gas.
Magnolia Pet. Co. No. 32 Peal, Sur. 383. Drlg. 527 ft.
Mills Bennett Prod. Co. No. 4 A. Lopez, Sur. 111. Comp. 197 B.P.D. on ½-in. ck.; Sd. 2,241-46 feet.
Mortimer & Springer No. 12-B Peal, Sur. 796. Comp. 20 B.P.H.; T.D. 2,121 ft.
Mortimer & Springer No. 13-B Peal, Sur. 796. Drlg. 1,977 ft.
Mortimer & Springer No. 14-B Peal, Sur. 796. Comp. 20 B.P.H.; T.D. 2,101 ft.
Mortimer & Springer No. 16-B Peal, Sur. 796. Drlg. 1,325 ft.
Texas Co. No. 10-A D.C.R.C. Sur., Lot 19, sec. 196. Set 10-in. csg. 86 ft.; W.O.C.

Peters—Duval County

Windsor Oil Co. No. 5-B Peters, Sur. 34. Drlg. 1,813 ft.

Sarnosa—Duval County

Humble O. & R. Co. No. 1 Arnstine, 320-ac. tr., sec. 130. Drlg. sh. 435 ft.

Seven Sisters—Duval County

W. W. Blocker No. 3 Benton-Coopwood, Sur. 382. Spdd.
Humble O. & R. Co. No. 23 Badgley, Sur. 307. T.D. 2,480 ft.; flowing in pits.
Humble O. & R. Co. No. 24 Badgley, Sur. 307. Drlg. 1,945 ft. sh.
Humble O. & R. Co. No. 2 Dowdy, Sur. 272. Set csg. 2,427 ft.; comp. gasser. Shut in.
Humble O. & R. Co. No. 3 Dowdy, sec. 272. Loc.
Humble O. & R. Co. No. 37 Smith, Sur. 382. T.D. 2,450 ft.; comp. no gauge.
Humble O. & R. Co. No. 41 Smith, Sur. 382. Comp. 13.77 B.P.H. on ⅜-in. ck. Sd. 2,451-60 ft.
Humble O. & R. Co. No. 42 Smith, Sur. 382. T.D. 2,471 ft.; comp. 33 B.P.H.
Humble O. & R. Co. No. 43 Smith, Sur. 382. Set csg. 2,445 ft.; W.O.C.
Reliance O. & Roy. Co. No. 4 State, Sur. 308. Comp. 28 B.P.H. on ⅜-in. ck. Sd. 2,462-72 ft.
Texas Co. No. 82 Badgley, Sur. 307. Comp. 43 B.P.H. on ⅜-in. ck.; T.D. 2,502 ft.
Texas Co. No. 9 Badgley, Sur. 307. Drlg. 1,283 ft.
Wellington Oil Co. No. 26 Welder, Sur. 383. Loc.
Westheimer & Daube No. 28 Campos, Sur. 224. Comp. 5.4 B.P.H. on ¼-in. ck. Sd. 2,659-2,710 ft.

Pearsall—Frio County

Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur. 1,104. T.D. 6,230 ft.; set csg. 6,119 ft.; blew out making est. 10,000,000 ft. gas; swab in hole; flowing 330 B.P.D. through csg.
Amerada Pet. Corp. No. 9 Oppenheimer, 1,320 ft. W line, 330 ft. S line, Gibson Sur. 16. (W.O.); stdg. 5,573 ft.

North Pettus—Goliad-Karnes Counties

Bostex Oil Co. No. 5 Runge Loan Bank, 330 ft. SW & SE lines lease, Meyer Sur. Sd. 3-718-30 ft.; comp. 17 B.P.H. on ¼-in. ck.
Diamond Halff Oil Co. No. 1-C Gillette, 745-ac. tr., J. Gomez Sur. Sd. 3,668-3,876 ft.; completing.
Magnolia Pet. Co. No. 7 Weldon & Lackey, 210-ac. tr., J. Gomez Sur. Drlg. 3,550 ft.
Sun Oil Co. No. 7 Scarbrough, B & H Sur. Sd. 3,682-96 ft.; comp. 35 B.P.D. on pump.

Clark—Guadalupe County

J. E. Clark No. 1 Grimm, G. DeWitt Sur. T.D. 2,618 ft.; D.&A.
Diamond Halff Oil Co. No. 2 Larison, G. DeWitt Sur. Spudded.
Marts & Bevins No. 2 Grim, G. DeWitt Sur. 13. Drlg. plug. 2,426 ft.

Darst Creek—Guadalupe County

La Jita Corp. No. 1 Denmann, 50-ac. tr. Spudding.
Marts & Beanens No. 2 Grimm, 100-ac. tr., DeWitt Sur. 13. Comp. 480 B.P.D.; T.D. 2,531 ft.
V. G. Schimmel No. 2 Grimm, Dewitt Sur. T.D. 2,525 ft.; W.O. pump.

LaBlanca—Hidalgo County

Pantana Pet. Co. No. 1-B Engleman, Lot 8, sec. 249. Perf. 6,666-83 ft.; flw. gas and 75 B.P.D. dist.; comp. 100 B.P.D.; C.D. 1,250 ft.
Pantana Pet. Co. No. 1 MacDougall, Lot 232, sec. 249. T.D. 8,077 ft.; making 2.5 B.P.H. 55 grav. oil. Shut in to change separators.
Sterling O. & R. Co. No. 1 Engleman, 660 ft. N and E lines, Lot 8, Blk. 95. Set surf. csg. 1,250 ft.; drlg. 1,272 ft.

Samfordyce—Hidalgo-Starr Counties

Ralph Fair No. 1 Flores, 30-ac. tr., Sh. 250, Porc. 38. R.U.
Ralph Fair No. 2 Flores, 30-ac. tr., Sh. 250, Porc. 38. Set csg. 2,961 ft.; W.O.C.; T.D. 2,973 ft.
E. A. Graham No. 1 Yturria Ld. & Livestock Co., Tr. 9, Porc. 100. Cg. 2,872 ft.
Harrison & Danvers No. 4-A Guerra, 30.78-ac. tr., Tr. 251, Porc. 38. Sds. 2,800-08 ft. and 2,940-58 ft.; S.O.; set csg. 2,996 ft.; S.D.
Phillips Pet. Co. No. 1-C Seabury, Sh. 256, Porc. 38. Cg.sd. 3,972 ft.
Young & Bonnear No. 1 Diaz, Tr. 331, Porc. 40. M.I.M.

Alworth—Jim Hogg County

French Oil Co. No. 4 Garza, Blk. 1, Sur. 269. Cg. 2,047 ft.

Colorado—Jim Hogg County

J. H. Meek No. 5-A Martinez, 1,650 ft. E line, 1,550 ft. N line, Sur. 623. S.D. 3,202 ft.

Randado—Jim Hogg County

Randado O. Corp. No. 36 Palacious, Blk. 18, Sur. 291. Drlg.

Bentonville—Jim Wells County

Danciger Oil Co. No. 1 Bird, de la Garcia grant. M.I.M.
Tom Graham No. 2 Luby, Share 4, Los Fresnos de Abajo Gr. Set surf. csg.; W.O.C.
La Jita Corp. No. 3 Bowers, 990 ft. N and E lines, sec. 14. Drlg. 5,821 ft.
Stanolind O. & G. Co. No. 1 Bird, de la Garcia Gr. Drlg. 3,793 ft.
Stanolind O. & G. Co. No. 3 King, 990 ft N. 330 ft. E. NE cor. sec. 20. in sec. 9. Drlg. 5,697 ft.
Stanolind O. & G. Co. No. 2 Pope, sec. 13, King Farm Lots. Loc.

Premont—Jim Wells County

Francis & Simonton No. 1 A. Lozana, Jr., 185 ft. E line, 165 ft. S line, Lot 111, sec. 36. S.D. 2,381 ft.
Tom Graham and Gilcrease Oil Co. No. 1 Escobar, 330 ft. N and E lines, Blk. 4, sec. 25, Buffalo-Tex Subd., Escobas ranch. T.D. 4,254 ft.; D.&A.
Tom Graham No 1 Wm. Singer, C Lots 71 and 74, Sur. 76. T.D. 3,400 ft. P.B. 3,163-67 ft.; perf. 3,157-64 ft.
W. F. Morgan No. 1 Laughlin, C Lots 39 and 42, sec. 72, Sur. 231. Set csg. on sd. 2,356 ft.; drlg plugs to complete.

Sandia—Jim Wells County

O. W. Killam No. 8 Wade, Blk. 40-A, Lopez de Jean Gr. Loc.
Geo. Smith No. 1 Wade, Lot 2, Wade ranch. D.&A. 4,570 ft.
J. E. Walsh No. 2 Wade, Lot 2, Blk. C, Bode Subd. Tstg. 2,910 ft.

Kingsville—Kleberg County

Great States Oil Co. No. 1 Kivlin, Blk. 4, sec. 39. Cg. 2,437 ft.

Lucas—Live Oak County

Houston Oil Co. No. 37 Cartwright, 1,300 ft. W, 300 ft. S, No. 35, F. Botillo Sur. No report.

Oakville—Live Oak County

Ohio Fuel Supply Co. No. 1 Goebel, 251-ac. tr., L. Romero Sur. Tstd. S.W. 2,910 ft.; T.D. 3,164 ft.; D.&A.
Simmons O. & G. Co. No. 1 Reagan, Romero Sur. T.D. 3,036 ft.; rng. electrical gun.

Calliham—McMullen County

W. P. Howard No. 6 Claunch, M. Hely Sur. Cg. 427 ft.
R. P. Lightfoot No. 9 Lark, Blk. 118, Scrugham Sur. Loc.
Loma Oil Co. No. 107-A Jacob, Sur. 514. Spudding in.
National Pet. Co. No. 2-B Lark, Jacob Sur. Drlg. 135 ft.

Rhodes—McMullen County

Bowan & Hope No. 1 Edrington, 80-ac. tr., Sur. 81. Comp. gasser 1,765-75 ft. Est. 16,000,000 ft.

Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. Drlg. 400 ft.

Agua Dulce—Nueces County

Lockhart Bros. No. 1 Elliff, 4,501 ft. E line, 466 ft. S line, 3,054.9-ac. tr., Antonio Longorio Gr. Drlg. 6,014 ft.
Stoddart & Moss No. 1 Colman, 330 ft. NW and NE lines, SE¼ SW 330-ac. tr., sec. 206, S.D. 6,885 ft.; blew out and closed in; to attempt comp. through drill stem.
Texon Drlg. Co. No. 2 Elliff, 5,580 ft. S line, 466 ft. E line, 3,054.9-ac. tr., Antonio Longorio Gr. Abd. loc.
Texon Drlg. Co. No. 2-B Sevier, 880-ac. tr., W. W. Chapman Lds., Palto Alto Gr. Set 16-in. csg. 300 ft.; drlg. 4,013 ft.
United Prod. Co. No. 1 Harvey, 1,100 ft. W line, 1,050 ft. N line, tr., M. Garza Sur. Drlg. 4,921 ft.

Clara Driscoll—Nueces County

Blanco Oil Co. and Buchanan No. 1 W. S. Gandy. 330 ft. S and W lines, E½ sec. 60. Cg. 6,143 ft.
Hiram Reed No. 2 Roper, C Lot 1, sec. 108. Perf. 3,901-05 ft.; gas and wtr.; to P.B. and perf in 3,800-ft. sd. W.O.W.
Mid-Continent Pet. Corp. No. 2 Sevier, 80-ac. tr., Russell Sur. R.U.
H. M. Reed No. 1 Holloway, 330 ft. S and E lines, 51.8-ac. tr., sec. 108. Perf. 3,902-04 ft.; flw. brackish wtr.; S.D.
Wellington Oil Co. No. 1-A Sevier, 125-ac. tr., Wm. Gamble Sur. Set csg.; T.D. 6,075 ft.; perf. 5,348-54 ft.; making dist. and gas; C.P. 1,875 lbs.; T.P. 1,950 lbs.
Wellington O. Co. No. 4 Sevier, 254-ac. tr., Wm. Gamble Sur. Set surf. csg.; W.O.C.
Wellington Oil Co. No. 10 Sevier, 254-ac. tr., Wm. Gamble Sur. S.D. 3,802-12 ft.; set 7-in. csg. to test.

Flour Bluff—Nueces County

Humble O. & R. Co. et al No. 1 Cordes, C Lot 12, Blk. 48. T.D. 6,663 ft.; flowing in pits.
Humble O. & R. Co. et al No. 5 Phillips, C Lot 6, Blk. 48. Set csg. 6,651 ft.; T.D. 6,661 ft.; comp.; 136 B.P.D. on ½-in. choke.
Humble O. & R. Co. et al No. 8 Phillips, Lot 2, Blk. 55. Drlg. sh. 5,614 ft.
Humble O. & R. Co. et al No. 2 Robertson, Lot 24, Blk. 47. T.D. 6,661 ft.; testing.
Humble O. & R. Co. et al No. 1-A Thompson, Lot 3, Blk. 55. T.D. 6,657 ft.; swbg. in.
Humble O. & R. Co. et al No. 3 Webb, Lot 10, Blk. 47. Drlg. 5,754 ft.
S. Paul No. 1 Moulter, Blk. 16, sec. 41, Encinal Garden tracts. Loc.

London—Nueces County

Cosner & Cosner No. 1 Stockton, 330 ft. N and E lines, SW¼, NE¼, sec. 25. Loc.
Cosner & Cosner No. 2 Stockton, 330 ft. S and E lines, SW¼, NE¼, sec. 25. Loc.

Saxet Heights—Nueces County

W. C. Brady No. 1 Guy, C Lot 45, Country Club Addn. M.I.M.
Callihan Bros. and Whitley No. 1 Hartley, Villareal Sur. R.U. and S.D.
Genro & Roosth No. 1 Caddell, C Lots 3, 4 and 5, Blk. "D," Harbor View Ests. Sd. 4,045-80 ft.; perf. 4,054-60 ft.; comp. 206 B.P.D. on ¼-in. ck.
Long et al No. 1 Wallace, 200 ft. S. line, midway E and W lines tr., Villareal Sur. T.D. 4,085 ft.; perf. 4,063-67 ft.; T.D. 4,105 ft.
Chas. F. McGrew No. 3 Kelly, 19-ac. tr. Sd. 4,060-90 ft.; set csg.; S.O. jetted S.W.; S.D.
W. N. Paul No. 2 Schallert, C Blk. "C," Harbor View Addn. S.D. 1,800 ft.; W.O.
Pedernal Oil Co. No. 1 John, Blk. 14, Oak Park Addn. S.D. 4,110 ft.; orders.
Port Oil & Gas Co. No. 3 Corpus Christi College, 500 ft. S No. 2, Villareal Sur. Drlg. 3,165 ft.
Renwar Oil Co. and Maryland Corp. No. 2 Golla, 19.3-ac. tr., Villareal Sur. Sd. 4,048-90 ft.; set csg.; perf. 4,078-83½ ft.; comp.
Sam Wilson, Jr., No. 2 McCaughan, Lots 1, 2 and 20, Blk. 9, Oak Park Addn. Set surf. csg.; W.O.C.

Saxet—Nueces County

C. Andrade No. 5 Frank, Sur. 416. R.U
Benson Drlg. Co. No. 1 Morgan, 330 ft. N and W lines, 40-ac. tr., Sur. 315 (W.O.). Old T.D. 4,483 ft.; R.U. to D.D.
Ben-Tex Oil Co. No. 2 Harmon, 990 ft. S line, 330 ft. E line, 50-ac. tr., Sur. 416. T.D. 5,846 ft.; fsg.
Bryant & Howell No. 1 Plachy, 330 ft. N L, 990 ft. EL, lease, Smith Sur. 25. Set surf. csg.; W.O.C.
Bryant & Howell No. 1-A Kocurek, 330 ft. N line; 580 ft. E line 53-ac. tr., Sur. 25. T.D. 4,601 ft.; set csg. 4,423 ft.; perf. 3,850-62 ft.; flowed oil and S.W. and went dead; swbg.
R. B. Bryant No. 8 Scoggins, 94-ac. tr., Sur. 315. S.D. 4,565-72 ft.; set csg.; W.O.C.
W. W. Chapman No. 5 Morgan-Clark, Sur. 405. (W.O.); old T.D. 6,401 ft.; drlg. 6,624 ft.
Ben F. Smith No. 1 R. Kleberg, NE¼, sec. 409. Tstd. S.W. 4,118 ft.; D.&A. 4,200 ft.
Conservative Oil Co. No. 4-B Morgan, 330 ft. N line, 1,984 ft. W line, Sec., Sur. 403. Drlg. 6,527 ft.
Crown Central Pet. Corp. No. 4-B Morgan, 80-ac. tr., Surs. 315 and 592. Drlg. 3,609 ft.
Crown Central Pet. Corp. No. 5-BB Morgan, 80-ac. tr., Surs. 315 and 592. Drlg. 4,226 ft.
Crown Central Pet. Corp. No. 2-C Morgan, 20-ac. tr., Sur. 315. M.I.M.
L. Glasscock No. 1-B Johns, 20-ac. tr., McGregor Sur. Drlg. 3,029 ft.
Great States Oil Co. and Violet Oil Corp. No. 7 McGregor-Belk, Sur. 311. D.S.T. 6,318-26 ft.; recd. 1,000 ft. oil, 90 ft. S.W.; sd. 6,208-26 ft.; set csg. 6,326 ft.; cleaning into pits.
Hiawatha Oil Co. No. 9 Hutchins-Stillwell, Lot 34, Sheppard Lands. Loc.
Hiawatha Oil Co. No. 4-A Smith, 98-ac. tr., Sur. 500. Drlg. 1,046 ft.
W. B. Hinton No. 4 Cole, 330 ft. N and W lines, 60-ac tr., Villareal Sur. Sd. 4,867-76 ft.; T.D. 4,881 ft.; S.D. W.O.O.
W. B. Hinton No. 5 Cole, 330 ft. N line, midway between Nos. 3 and 4, 60-ac. tr., Villareal Sur. Loc.
Houston Oil Co. No. 12 McGregor, 135-ac. tr., Sur. 582. W.O. rig.
Houston Oil Co. No. 14 Morgan, 2,310 ft. S line, 330 ft. W line, 493-ac. tr. T.D. 4,865 ft.; S.D. W.O.O.
Houston Oil Co. No. 16 Morgan, 492-ac. tr., sec. 7, Rge. 5. Sd. 4,546-51 ft.; comp. 204 B.P.D. on 5/32-in. ck.
Houston Oil Co. No. 17 Morgan, sec. 7, Rge. 5. Drlg. 2,695 ft.
Houston Oil Co. No. 18 Morgan, sec. 7, Rge. 5. R.U.
H. H. Howell No. 1 Hutchins, 330 ft. N and E lines, 80-ac. tr., Sur. 416. Drlg. 6,582 ft.
Magnolia Pet. Co. No. 5 Walton, Page Lds. Sur. Drlg. 3,623 ft.
Maryland Corp. No. 6 Morgan, Sur. 592. Drlg. 2,737 ft.

Maryland Corp. No. 1 Stillwell-Sagarin, 4.4-ac. tr., Sur. 500. Drlg. 1,212 ft.
T. P. Morgan & Associates No. 5 Morgan, NE¼, Sur. 405 (workover). D.S.T. 6,730-91 ft.; rec. 14 bbls. P.L.O. at 270 lbs. W.P. in 15 min.; Cg. 6,794 ft.
Oso Drillers, Inc., No. 4 Roark, 660 ft. E line, 1,200 ft. S line, 106-ac. tr., Villareal Gr. Cg. 6,377 ft.
Pan American Prod. Co. No. 3-A Morgan, 89-ac. tr., Sur. 403. Loc.
Pan American Prod. Co. No. 5-D Morgan, 330 ft. S and E lines, W½, SW¼, sec. 405. T.D. 5,825 ft.; set csg. 5,816 ft.; Perf. 5,809½-13½; made oil and mud; resetting screen.
Pan American Prod. Co. No. 3-B Sagarin Sur. 500. Sd. 5,830-43 ft.; comp. 123 B.P.D. on ⅛-in. ck.
Pan American Prod. Co. No. 4-A Sagarin, Sur. 500. Drlg. 2,037 ft.
Pan American Prod. Co. No. 4-B Sagarin, Sur. 500. Drlg. 2,412 ft.
Pan American Prod. Co. No. 3-B Smith. Sd. 5,830-48 ft.; set csg. 5,848 ft.; W.O.C.
Pan American Prod. Co. No. 3 Solar Sevier, 140-ac. tr., Sur. 311. D.S.T. 6,269-80 ft.; rec. 230 ft. oil, 130 ft. S.W.; W.P. 125 lbs.; W.O.O.
Phillips Pet. Co. No. 5 Hutchins, 60-ac. tr., Blks. 29 and 30, Sheppard Farm Lots (W.O.). Cg. 6,321 ft.
Renwar & Maryland No. 6 Morgan. Sur. 315. Sd. 4,434-42 ft.; set csg.; W.O.C.
Republic Nat. Gas Co. No. 1 P. W. Alexander, 32.35-ac. tr., sec. 9, Rge. 5. T.D. 6,768 ft.; P.B. 5,000 ft.; W.O.C.
Republic Nat. Gas Co. No. 3 A. Donigan, 240-ac. tr., secs. 6 and 7, Rge. 5. Drlg. 3,657 ft.
Republic Nat. Gas Co. No. 17 Dunn, Blk. 37, Sheppard Farm Lots. R.U.
Republic Nat. Gas Co. No. 3-A Morgan, sec. 405. Drlg. 1,780 ft.
Republic Nat. Gas Co. No. 3 Ordner, 100-ac. tr., sec. 403, Schaffer Farm Lots. Cg. 6,759 ft.
Richardson Pet. Co. No. 15 Cain & Secrist, Blk. 23, Russell Farm Lots. Drlg. 1,120 ft.
Richardson Pet. Co. No. 2 Meredith, Blk. 40, Sheppard Farm Lots. Cg. 5,796 ft.
Richardson Pet. Co. No. 5 Perkins-LaGasse, Blk. 26, Sheppard Farm Lots. Set surf. csg. 1,200 ft.; W.O.C.
Southern Minerals Corp. No. 7 Bliss, 120-ac. tr., Sur. 406. (W.O.); R.U. to D.D.; old T.D. 5,827 ft.
Southern Minerals Corp. No. 5 Mastin, Sur. 416. M.I.M.
Southern Minerals Corp. No. 10 Smith, Lot 5, Sheppard Farm Lots. Drlg. 4,102 ft.
Southern Minerals Corp. No. 11 Smith, Lot 9, J. Dunn Sur. 314. R.U.
T. & T. Oil Co. No. 3 Cain & Secrist, Lot 23, Russell Farm Lots. Sd. 4,424-32 ft.; set csg.; W.O.C.
Taylor Pet. Co. No. 1 Baldwin, 200-ac. tr., Blk. 21, Russel Farm Lots. Drlg. 6,707 ft.
Texon Drlg. Co. No. 2 Carter et al, 200-ac. tr., Sur. 316. Comp. 130 B.P.D on 5/32-in. ck. Sd. 4,447-51 ft.
Texon Drlg. Co. No. 4 Kocurek, 140-ac. tr., Sur. 316. M.I.M.
W.A.R. Oil Co. No. 4 Hoelscher, Blk. 23, Sheppard Farm Lots. Sd. 4,453-59 ft.; completing.

Stratton—Nueces County

Camp Prod. Co. No. 1 Wordner, 330 ft. E line, 1,280 ft. N line, sec. 12, Stratton Subd. R.U. and S.D.

Plymouth—San Patricio County

Humble O. & R. Co. No. 5 Bevely, Blk. 1, sec. 35. Comp. 8 B.P.H. on 9/64-in. ck.; T.D. 5,645 ft.
Magnolia Pet. Co. No. 11 Corpus Christi Bank, sec. 24, Fourth Addn., Taft Lds Drk.
Plymouth Oil Co. No. 65-C Welder, sec. 71. Tstg. 6,575 ft.
Plymouth Oil Co. No. 67-C Welder, sec. 48. Drlg. 1,817 ft.
Sun Oil Co. No. 4 Rosson, sec. 35, Fourth Addn. Drlg. 5,326 ft.

Taft Field—San Patricio County

Atlantic Ref. Co. No. 3 Pullin, 330 ft. N line, 380 ft. W line, 40-ac. tr., Lot 4, sec. 1, Second Addn. R.U.
Cage Prod. Co. No. 5 Mayo, 330 ft. S and W lines lse., J. Fessenden Sur. Completing 4,926 ft.
Cage Prod. Co. No. 6 Mayo, Ottman Sur. Drlg. 312 ft.
Cage Prod. Co. No. 7 Mayo, 9,560 ft. W line, 990 ft. S line, 60-ac. tr., Ottman Sur. Loc.
Conroe Drlg. Co. No. 6 Pullin, Lot 4, sec. 1. Comp. 150.44 B.P.D. on 5/32-in. ck.; Sd. 4,914-28 ft.
Esues Oil Co. No. 4 Britton, Lot 8, sec. 6, Third Addn. Set csg. 4,008 ft.; completing.
Esues Oil Co. No. 5 Britton, Lot 8, Sec. 6, 3rd Addn. R.U.
Humble O. & R. Co. No. 15 Mayo, 320-ac. tr., Ottman Sur. Comp. 9½ B.P.H. on 3/16-in. ck.; T.D. 4,928 ft.
Humble O. & R. Co. No. 16 Mayo, 320-ac. tr., Ottman Sur. Drlg. sd. 3,783 ft.

Los Olmos—Starr County

Ted Stone No. 1 Kelsey-Bass, Porc. 87, J of Camargo. Sd. 400-08 ft.; tstg.

Rio Grande City—Starr County

Clopton & Reed No. 3 D. Tijerino, Lot 12, Sh. 14-C, Porc. 80. Spudded and set sur. csg. 210 ft.

Cole—Webb County

Cole Pet. Co. No. 1 Cuellar. S.D. 3,428-35 ft.; S.O.; rmg. to test.

O'Hern—Webb County

Hamil & Smith No. 18 Benavides, Blk. 438, Hale Subd. Comp. 9 B.P.H. on ⅛-in. ck.; T.D. 2,933 ft.
Hamil & Smith No. 19 Benavides, Hale Subd. Drlg. 2,217 ft.
Hamil & Smith No. 28 Benavides, Hale Subd. Tstg. sd. 2,924-36 ft.
Hamil & Smith No. 36 Benavides, Hale Subd. Comp. 16 B.P.H. on ⅛-in. ck.; T.D. 2,931 ft.
Hamil & Smith No. 37 Benavides, Hale Subd. Drlg. 2,521 ft.
Hamil & Smith No. 41 Benavides, Hale Subd. Comp. 220 B.P.D.; sd. 2,924-34 ft.
Hamil & Smith No. 42 Benavides, Hale Subd. Comp. 18 B.P.H.; T.D. 2,937 ft.
Hamil & Smith No. 1-A Bruni, Sur. 585. Drlg. 427 ft.
Hamil & Smith No. 3-A Bruni, Sur. 585, Drlg. 2,517 ft.
O. W. Killam No. 2 Bruni, Sur. 585. D.&A. 3,318 ft.
H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. Swbg. 2,916 ft.
Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.
Sun Oil Co. No. 2-A Benavides, Blk. 439, Hale Subd. Set csg. 2,932 ft. Comp. 20 B.P.H. on 2-in. tbg. Sd. 2,932-48 ft.
Sun Oil Co. No. 3-B Benavides, Blk. 446. Drlg. 2,017 ft.
Texas Co. No. 3-A Benavides, Lot 372, Hale Subd. Set csg. 2,914 ft.; W.O.C.

Charco Redondo—Zapata County

W. C. Bob No. 2 Martinez, S¼, Blk. 22, Quandudo Grant. Drlg. 421 ft.

Escobas—Zapata County

E. Calloway No. 1 Bustamente, Sh. 8, Fansler Part. Comp.; 57 B.P.D.; T.D. 1,225 ft.
H. H. Coffield No. 4 Benavides, Sh. 34. Comp. 35 B.P.D.; T.D. 1,254 ft.
H. H. Coffield No. 6 Benavides, Sh. 34. Drlg. 819 ft.
Daubert & Lipscomb No. 3 Santos, Share 6, Fansler Part. Comp.; 50 B.P.D.; T.D. 1,287 ft.
B. W. Roscoe No. 6 Bustamente, 197.3-ac. tr., Sh. 33. Loc.
B. W. Roscoe No. 10 Bustamente, Sh. 33. Comp. 80 B.P.D.; T.D. 1,167 ft.
B W. Roscoe No. 7 Garza, Share 33. Fansler Part. Comp.; est. 75 B.P.D.; T.D. 1,226 ft.
Texas Co. No. 95 Jennings, Cerrito Blanco Gr. D.&A. 2,170 ft.

Haynes—Zapata County

I. D. Long No. 1 Phelps, Villa Gr. R.U.
Magnolia Pet. Co. No. 5 Haynes, Blk. 7, Haynes Subd. T.D. 1,482 ft.; S.D.
Magnolia Pet. Co. No. 14 Haynes, Blk. 7, Haynes Subd. Drlg. 377 ft.
Magnolia Pet. Co. No. 15 Haynes, Blk. 7, Haynes Subd. Set csg. 1,123 ft.; W.O.C.
Magnolia Pet. Co. No. 16 Haynes, Blk. 7, Haynes Subd. Comp. 50 B.P.D.; T.D. 1,140 ft.
Magnolia Pet. Co. No. 16 Haynes, Blk. 7, Haynes Subd. Set csg. 1,127 ft.; W.O.C.
Magnolia Pet. Co. No. 17 Haynes, Blk. 7, Haynes Subd. Drlg. 927 ft.
McKay & Upchurch No. 18 Haynes, Blk. 7, Haynes Subd. Comp. 20 B.P.D.; T.D. 1,100 ft.
United Prod. Co. No. 16 Haynes, Blk. 13, Gunby Subd. T.D. 1,046 ft.; W.O.P.E.
United Prod. Co. No. 17 Haynes, Blk. 13, Gunby Subd. Set csg. on sd. 1,001 ft.; W.O.C.
United Prod. Co. No. 18 Haynes, Blk. 13, Gunby Subd. D.&A. 1,162 ft.
United Prod. Co. No. 19 Haynes, Blk. 13. Comp. 57 B.P.D.; T.D. 1,054 ft.
United Prod. Co. No. 24 Haynes, Blk. 13, Gunby Subd. D.&A. 1,230 ft.
United Prod. Co. No. 25 Haynes, Blk. 13, Gunby Subd. Drlg. 1,072 ft.
Valley Osage O. Co. No. 8 Haynes, Blk. 14, Haynes Subd. Comp. 75 B.P.D.; T.D. 1,072 ft.
Valley Osage O. Co. No. 9 Haynes, Blk. 14, Haynes Subd. Comp. 56 B.P.D.; T.D. 1,072 ft.
Valley Osage O. Co. No. 16 Haynes, Blk. 14, Haynes Subd. Testing 1,070 ft.
Valley Osage O. Co. No. 17 Haynes, Blk. 14, Haynes Subd. Drlg. 273 ft.

Lopena—Zapata County

Venture Pet. Co. No. 2 Ramerez, Blk. 3, Porc. 13. Loc.

E. C. TEXAS WILDCATS

Anderson County

American Liberty Oil Co. No. 1 G. E. Gauge, Blackfoot area, B. Gilbert Sur. To spud.
Tide Water Oil Co. et al No. 7 Monnig, 1,866 ft. N of No. 2, S. Sanchez Sur., deep test, Long Lake field. Drlg. 4,800 ft.

Angelina County

Hicks et al No. 1 Morris, J. Morris Sur., 3 mi. E of Diboll. S.D. 2,165 ft.
Summeral-Harris et al No. 1 M. L. Condrea, D. D. Maroney Sur., ¾ mi. W of Huntington. S.D. 1,472 ft.

Cherokee County

General Crude Oil Co. No. 1 O. A. Braley et al, 865 ft. from W and 300 ft. from S of 208-ac. tr., J. Thomas Sur., 4 miles E of Mt. Selman. M.I.M.
F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Dallas County

Mauldin Oil Co. No. 1 W. E. Howell, S. Layton Sur., 3 mi. E of Grapevine, 6 mi. W of Longmire. R.U.

Falls County

A. H. Bell et al No. 1 C. L. Trice, F. Mayham Sur., 1 mi. E of Lott. S.D. 876 ft.
R. M. Hefflin, No. 1 T. E. Battle, Mari Sur., 3 mi. SW of Marlin. S.D. 2,082 ft.
Thirteen Oil Co. No. 1 H. R. Roberts, N. Slatter Sur., 6 mi. SE of Lott, Pecan Gap 1,480 ft.; drlg. 2,200 ft.

Fannin County

Joiner & Owens No. 1 Goss-Morgan, J. Stephens Sur., 16 mi. N of Honey Grove. Fsg. 2,702 ft.
Styles & Smith No. 1 R. Stewman, J. W. Clark Sur., 2 mi. SE of Trenton. S.D. 588 ft.; elev. 724 ft.

Freestone County

Everett Drlg. Co. No. 1 O. W. Killian, E. J. Robins Sur., 6½ mi. SE of Fairfield. S.D. 4,400 ft.
Fancey et al No. 1 Scott, Church Lot, H. Awalt Sur., W of Stewartsville. S.D. 3,870 ft.

Hunt County

Penn Oil Corp. No. 1 R. B. Parish, C 100-ac. tr., N. Dauley Sur., 7 mi. NE of Lone Oak. Drk.
Superior Oil Co. No. 1 P. D. Paul, Mary Latham Sur., 4⅛ mi. NE of Quinlan. Drlg. 3,800 ft.
Texola Land Corp. No 1. J. M. Goin, Jas. Merrick Sur., 2 mi. SW of Wolfe City. S.D. 40 ft.

Kaufman County

Scott & Woodside No. 1 W. and T. Nash, in J. Cortez Sur., 1 mi. E of Scurry. Loc.

Lamar County

Lowery-Cutler No. 1 E. C. Porter, Thos. King Sur. Top Georgetown 354 ft.; drlg. 2,507 ft.

Limestone County

A. W. Phillips et al No. 1 E. M. Speight, M. Herrin Sur., 6½ mi. SE of Mexia. Fsg. 3,680 ft.

Rains County

Humble and Tide Water Oil Co. No. 1 Easter, R. Hotchiss Sur., 5 mi. NW Alba. Drlg. 7,790 ft.

Red River County

Carpenter Oil Corp. No. 1 J. M. Roberts, J. Ware Sur., 10 mi. NE of Clarksville. M.I.R.
Roy I. Carter Drlg. Co. No. 1 J. A. Tutt, C 40-ac. tr. in D. Hart Sur., 2 mi. S of Avery. S.D. 80 ft.
M. Petroff et al No. 1 R. G. Morris, J. Guest Sur., 2 mi. W of Detroit. S.D. 20 ft.

Robertson County

J. E. Mills No. 1 T. Congelosi, C of 75-ac. tr. in G. A. Nixon Sur., 3½ mi. SW of Hearne. S.D. 2,250 ft.

Van Zandt County

American Liberty Oil Co. No. 1 J. A. Freeman, 250 ft. out of NW cor. 92½-ac. tr., John Walling Sur. M.I.M.
H. & H. Drlg. Co. et al No. 1 J. W. Jones, 333 ft. out of NE cor. of 78-ac tr., Jas. Smith Sur., 3 mi. SE of Ben Wheeler. Drk.
Stroud & Lowe No. 1 P. L. McNeill, J. W. Guest Sur., 4 mi. N of Ben Wheeler. S.D. 110 ft.

Wood County

G. W. Nix et al No. 1 E. A. Russell, J. Delap Sur., SW cor. of county. S.D. 600 ft.

EAST TEXAS

(Border Counties)

Cass County

W. D. Ambrose No. 1 W. D. Chew, Robt. Trammel Sur., Chew tr. Drlg. 5,490 ft.
W. D. Ambrose No. 2 W. D. Chew, Robt. Trammel Sur., Chew tr. Drlg. 5,400 ft.
American Lib. No. 6-A Baugus, J. H. Rives Sur., Lot 9. Drlg. 5,720 ft.
American Liberty No. 5 J. Wiley, SW cor. lse., J. Davenport Sur. Comp.; flow 319 B.P.D.; T.D. 5,987 ft.
Frank DeMayo No. 1 W. D. Chew, Robt. Trammel Sur. R.U.
Gulf Prod. Co. No. 3 Dawson, J. H. Rives Sur. Drlg. 5,185 ft.
Magnolia Pet. Co. No. 1 Allday Est., P. Evans Sur., SE cor. 87-ac. tr. Swabbing; T.D. 6,035 ft.
Magnolia Pet. Co. No. 2 Allday Est., P. Evans Sur. Drlg. 5,803 ft.
Magnolia Pet. Co. No. 5 L. Haywood, P. Evans Sur., 625 ft. NE of No. 4. Tstg.; T.D. 6,035 ft.
Magnolia Pet. Co. No. 6 L. Haywood, P. Evans Sur., 508 ft. NW of No. 1. Comp.; flowed 10 B.P.H.; T.D. 6,022 ft.
Magnolia Pet. Co. No. 7 L. Haywood, P. Evans Sur., SW of No. 3. Loc.
Magnolia Pet. Co. No. 8 L. Haywood, P. Evans Sur., NE of No. 2. Loc.
Magnolia Pet. Co. No. 1 Lewis & Wicks, A. Archer Sur., SE cor. 20-ac. tr. Comp.; flowed 257 B.P.D.; T.D. 6,102 ft.
Magnolia Pet. Co. No. 2 Lewis and Wicks No. 2, Cass Cty. Sch. Ld. Sur., NW cor. tr. Loc.
Magnolia Pet. Co. No. 3 Lewis and Wicks, Cass Cty. Sch. Ld. Sur., East of No. 2. Loc.
Magnolia Pet. Co. No. 4 Lewis and Wicks, Cass Cty. Sch. Ld. Sur. Loc.
Magnolia Pet. Co. No. 5 Lewis and Wicks, Cass Cty. Sch. Ld. Sur., east of No. 4. Loc.
Magnolia Pet. Co. No. 6 Lewis and Wicks, Alex Archer Sur. Loc.
Magnolia Pet. Co. No. 7 Lewis and Wicks, Alex Archer Sur. Loc.
Magnolia Pet. Co. No. 1 J. B. McLeod, Cass Co. Sch. Ld. Sur., NW cor. ... Loc.
Magnolia Pet. Co. No. 8 Meda Green, J. Davenport Sur. Loc.
Magnolia Pet. Co. No. 13 Meda Green, J. Davenport Sur. Loc.
Magnolia Pet. Co. No. 4 Noel Est., W. B. Hughes Sur. Drlg. 5,660 ft.
Magnolia Pet. Co. No. 5 Rives, SE cor. John Collum Sur. P.B. 5,965 ft.; ... test.
Magnolia Pet. Co. No. 3 H. F. Walker, Wilson Robinson Sur., NW cor. 102-ac. lse. Comp.; flowed 12 B.P.H.; T.D. 4,... ft.
Magnolia Pet. Co. No. 4 H. F. Walker, Wilson Robinson Sur., NE cor. 102 ac. lse. Comp.; flowed 390 bbls. 15 hrs. T.D. 6,010 ft.
Magnolia Pet. Co. No. 5 H. F. Walker, Wilson Robinson Sur., SW cor. 102-ac. lse. Comp.; flowed 480 B.P.D.; T.D. 6,009 ft.
Magnolia Pet. No. 3 W. M. Hall, Wilson Robinson Sur. Loc.
R. W. Norton No. 1 Davis, H. Holbert Sur. R.U. and S.D.
R. W. Norton No. 3 Davis, H. Holbert Sur., NE cor. Loc.
Ohio Oil Co. No. 5 R. P. Willis, S.F.I.W. Sur. No. 1,263. Comp.; flowed 556 B.P.D.; T.D. 6,008 ft.
Ohio Oil Co. No. 8 Willis, S.F.I.W. No. 1,263 Sur. S.D. 2,255 ft high water.
Ohio Oil Co. No. 12 R. P. Willis, SE cor. 320-ac. tr., S.F.I.W. Sur. No. 1,263. Gas well; stg.; T.D. 5,924 ft.
Ohio Oil Co. No. 13 R. P. Willis, S.F.I.W. Sur. No. 1,263. Loc.
Ohio Oil Co. No. 14 R. P. Willis, S.F.I.W. Sur. No. 1,263. S.D. 3,785 ft. high water.
Ohio Oil Co. No. 18 R. P. Willis, S.F.I.W. Sur. No. 1,263, 1,750 ft. W of No. 11. S.D. 4,590 ft. high water.
Phillips Pet. Co. No. 1 Chew, SE cor. 207-ac. lse., Robt. Trammel Sur. Comp.; flowed 19 B.P.H.; T.D. 6,135 ft.
Phillips Pet. Co. No. 5 Farrier, Wm. R. Myers Sur. Drlg. 4,160 ft.
Phillips Pet. Co. No. 6 Farrier, Wm. R. Myers Sur. Drlg. 5,497 ft.
Phillips Pet. Co. No. 7 Farrier, Wm. R. Myers Sur. Drlg. 1,370 ft.
Phillips Pet. No. 8 Farrier, Wm. R. Myers Sur. Loc.
Phillips No. 2 Farrier, Wm. R. Myers Sur., 220-ac. lse. T.D. 6,118 ft.; tstg.
Phillips No. 4 Farrier, Wm. R. Meyers Sur., 933 ft. W of No. 2. Comp.; flowed 60 B.P.D.; T.D. 6,116 ft.
Phillips Pet. Co. No. 1 Skinner, Hutchison tr., S.F.I.W. Sur. No. 1,263. Drlg. 6,122 ft.
Spray Oil Co. No. 3 Scott, Robt. Trammel Sur. R.U.
Spray Oil Co. No. 4 Scott, Robt. Trammel Sur., west of No. 1. Loc.
Texas Co. No. 3 W. M. Hall, Alex Archer Sur. Rmg. 6,060 ft.
Texas Co. No. 5 W. M. Hall, A. Archer Sur. Drlg. 693 ft.
Texas Co. No. 6 W. M. Hall, A. Archer Sur. R.U.
Texas Co. No. 1 D. Lewis, A. Archer Sur. Drlg. 5,527 ft.
Texas Co. No. 3 J. B. McLeod, W. A. Bilott Sur. Comp.; flow 1,280 B.P.D.; T.D. 6,078 ft.
Texas Co. No. 6 N. A. Rambo, Cass County Sch. Ld. Sur. Drlg. 2,200 ft.
Texas Co. No. 8 N. A. Rambo, Cass County Sch. Ld. Sur. Drlg. 4,624 ft.
United Prod. Co. No. 1 G. W. Bibby Unit, A. Archer Sur. Drlg. 5,290 ft.
United Prod. Co. No. 2 Bivens Unit, Jas. Davenport Sur. T.D. 6,021 ft.; tstg.
United Prod. Co. No. 3 J. A. Bewley, H. Holbert Sur. S.D. high water 2,597 ft.
United Prod. No. 4 J. A. Bewley, H. Holbert Sur. S.D. high water 4,976 ft.
United Prod. No. 5 J. A. Bewley, H. Holbert Sur. S.D. high water 3,885 ft.
United Prod. No. 1-A J. H. Bewley, H. Holbert Sur. S.D. 5,101 ft. high water.
United Prod. No. 2-A J. H. Bewley, H. Holbert Sur. S.D. 3,450 ft. high water.
United Prod. No. 5 G. W. Bibby Unit. Drlg. 5,681 ft.
United Prod. No. 9 Rambo Unit, J. Davenport Sur., 545 ft. S, 400 ft. E of most northerly NW cor. Rambo Unit. T.D. cmt. 5,995 ft.; T.D. 6,012 ft.; W.O.C.
United Prod. Co. No. 10 Rambo, J. Davenport Sur. Drlg. 5,858 ft.
United Prod. Co. No. 5-A Tyson, J. H. Rives Sur. Drlg. 5,053 ft.
United Prod. Co. No. 6-A Tyson, J. H. Rives Sur. Drlg. 5,469 ft.
United Prod. No. 1 S. B. Willis, Wilson Robinson Sur. R.U.
United Prod. No. 2 S. B. Willis, Wilson Robinson Sur. No. 908. Drlg. 3,331 ft.
United Prod. No. 3 S. B. Willis, Wilson Robinson Sur. No. 908. S.D. 2,215 ft. high water.
Vaughn Prod. Co. No. 2 Willis, S.F.I.W. Sur. No. 1,263. S.D. 2,600 ft. high water.

Harrison County

Geyer Oil Co. No. 1 Alex Moore, 5 mi. SW of Waskom, C. W. Fields Sur. Drlg. 2,314 ft.
H. H. Roberts et al No. 1 Z. Douglas & Fields Sur. T.D. 2,485 ft.; W.O.C.S.

Marion County

Arkansas-La. No. 1 W. S. Ford, Charles Grayson Sur., NE cor. Ford 294-ac. tr. Drlg. 5,583 ft.; anhy.
Tom Bell et al No. 1 David Lane, SW cor. Log 2, Jones Sur. T.D. 72 ft.; S.D.
F. R. Freet et al No. 1 Barnham, Robt. Potts Sur. Drk.
Sam Lanier No. 1 Lucey Rives, SE cor. M. G. Wall Sur. T.D. 960 ft.; W.O.C.
Morefield & Prince No. 1 Benefield, NW cor. Robt. Potter Sur., 4 mi. W of Ore City, La. T.D. 180 ft.; S.D.

Holcomb & Thomason No. 1 Lizzie Henderson, 330 ft. S and E, cor. Blk. 18, of Lizzie Henderson Subd., or 2,300 ft. S, 3,450 ft. E of NW cor. of R. Bennington Sur. Recmtd. 9⅝-in. csg.; core ahead; cg. blk. shale 6,265 ft. T.D. 6,405 ft.; 7-in. cmt. 6,088 ft.; W.O.C.S.

Panola County

Logansport P. L. Corp. No. 1 Rushing, M Smith Sur. T.D. 2,774 ft.; S.D.

Matex Oil Co. No. 1 Thomas M. Alstone, 3 mi. E of Elysian field. T.D. 5,036 ft.; W.O.

Shelby County

Potter & Rubeling O. H. Polly No. 1, Wm. Wisser Sur. T.D. 4,070 ft.; S.D.

Wm. Redditt No. 1 Pickering Lbr. Co., cor. Stephens English Sur. S.D. 2,165 ft.; fuel.

Red Wing Oil Co. No. 1 C. H. Herton, 54-ac. tr. in J. Dowlin Sur. S.D. 1,889 ft.

E. A. Stebbinger No. 1 Pickering Lbr. Co., on 160-ac. tr. in A. Hanson Sur. Drlg. 3,144 ft.

NORTH TEXAS WILDCATS

Archer County

L. T. Burns No. 1 G. A. Lauster A, E.L. R.R. Sur. No. A-799. Drlg. 1,309 ft.

Guy Scholl No. 1 Cowan, Blk. 6, J.C.S.L. Sur. A-240. Tstg.; S.S.O. 996-1,000 ft.; recmtg.

J. A. Self No. 1 Symank, sec. 11, L. & M. Pasture. Loc.

Clay County

Green Mt. Oil Co. No. 1 Staggs, sec. 34, A.C.S.L. Sur. Loc.

G. T. Morris No. 1 Boddy, T. Cook Sur. S.D.O. 810 ft.

Collin County

Serrell et al No. 1 D. R. Clark, J. Rowland Sur. Spudded and S.D.

Cooke County

Wm. D. Compton No. 1 P. Tucker, J. Barnett Sur. A-42. Drlg. 600 ft.

B. H. Hilburn No. 1 W. A. Harris, J. Harris Sur. A-502. C.O. 1,500 ft.

Montour Prod. Co. No. 1 Cornelius, J. T. Bloomfield Sur. A-35. Drlg. 2,450 ft.

Peterson et al No. 1 J. M. Floyd, Chas. De Morse Sur. A-305. S.D.

Ruble & Lowery No. 1 Dozier, Lot 12, F.C. S.L. Sur. R.U.R.

Denton County

Carlysle & Wilson No. 1 J. P. Knox, R. Howard Sur. A-542. Gas sd. 1,950-55 ft.; est. 10,000,000 ft.; S.D. acct. weather.

J. C. Foster No. 1 Jeffcoat, J. West Sur. S.D. 1,565 ft.

C. C. Minnick No. 1 C. N. Price, J. Doughtitt Sur. A-1,322. Fsg. 270 ft.

Oil Finance No. 1 J. S. Gambill. S.D. 1,562 ft.

J. Stogner No. 1 J. Maxwell, Jno. Morton Sur. A-792. Spudded and S.D.

Grayson County

F. Gallbreath et al No. 1 Singletary, Chas. Quillian Sur. A-989. 6⅝-in. csg. 3,845 ft.; S.S.O. 3,860-65 ft.; tstd. wtr. and trace oil; S.S.O. 3,980-4,000 ft.; testing.

Red Wing Oil Co. No. 1 Mulder, J. Barefoot Sur. S.D. 180 ft.

Olson et al No. 1 D. R. Uitger, P. P. Cady Sur. A-301. Drlg. 3,245 ft.

Pete Shanor No. 1 Blair. S.S.O. 3,190-3,200 ft.; S.D. for pipe; to test.

Hardeman County

Locke & Durham No. 1 Schoppa, sec. 57, H.&T.C. Sur., Blk. 16. Spudding.

Jack County

Bryson O. & G. Co. No. 1 O. Loving, T.& N.O. Sur. A-852. Drlg. 4,600 ft.

Danciger O. & R. Co. No. 1 Kinder, B.S.&F. Sur. A-33. U.R. 8¼-in. 1,625 ft.

Hamilton Pet. Co. No. 1 J. S. Rhodes, Wm. Orr Sur. A-849. Drlg. 1,150 ft.

Mrs. D. P. Jack No. 1 Hardy, T.E.&L. Sur. No. 2,555. Drk.

Sam Shabay No. 1 L. W. Fields, sec. 1, S.P.R.R. Sur. Loc.

Tillman et al No. 1 Jones, J. Helmstutter Sur. No. A-1,269. Drk.

Montague County

Gutowsky & Clay No. 1 Lemon, C. K. Ham Sur. S.D. 2,820 ft.

W. E. Halbert No. 1 Petty, S. A. Southerland Sur. A-992. Drlg. 2,957 ft.

Edgar T. Hart No. 1 W. L. Davis, sec. 12, Jack Co. Sch. Ld. Drlg. 125 ft.

C. A. Lupton No. 1 Ball, T.E.&L. Sur. A-800. Derrick.

D. L. Monroe No. 1 Sappington, sec. 64, E.T.R.R. Sur. A-1,443. S.D. 400 ft.

Ventex Investments, Ltd., No. 1 S. E. Bell, sec. 11, M.E.P.&P. Sur. Spudding.

Throckmorton County

R. J. Williams No. 1 W. B. Parrott, T.E. &L. Sur., sec. 961. S.D.O. 2,520 ft.

Wichita County

King Oil Co. No. 1 Geo. Streit, Blk. 317, W.C.S. Sur. Spudding.

T. B. Medders No. 1 Foster, sec. 2, S.A. &M.G. Sur. Drlg. 822 ft.

Palmer et al No. 1 McCarty, S. O. Fowler Sur. No. A-78. Fsg. 1,820 ft.

Wilbarger County

Bason Drlg. Co. No. 1 Waggoner, sec. 2, H.&T.C. Sur., Blk. 4. Loc.

Wise County

Texas-Canadian Dev. Co. No. 1 L. W. Still, Isham Epps Sur. A-267. Loc.

Young County

R. C. Albright No. 1 W. E. Steele, I.R.R. Sur. A-156. R.U.C.T.

Alexander & Long No. 1 Goldston, S.P.R.R. Sur. A-263. Drlg. 3,655 ft.

Helmerich & Payne No. 1 J. H. Rubenkoenig, J. Poitevent Sur. 9-227. S.S.O. 4,205-30 ft.; testing.

A. T. Strong No. 1 Davidson, R. C. Eddleman Sur. A-1,420. T.D. 4,160 ft.; P.B. to 3,875 ft.

R. H. Vise No. 1 Dollins, T.E.&L. Sur. 615. Drlg. 2,800 ft.

C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1,772. Fsg. 1,040 ft.

L. W. Wickes No. 1 McCluskey, Green Sur. Drlg. 4,000 ft.

Yorktex Pet. Co. No. 1 F. G. Burnett, G. W. Hills Sur. A-151. C.O. and testing 4,020-80 ft.

WEST TEXAS WILDCATS

Andrews County

American Liberty Oil Co. No. 1 Mayhew, sec. 23, Blk. A-51, P.S.L. Sur. Drlg. 3,310 ft.

G. F. Getty, Inc., No. 1 R. H. Lindley, sec. 8, Blk. A-46. Drlg. 3,820 ft.

Grisham Hunter Corp. No. 1 Ratliff & Bedford. S.D. 4,805 ft.

Wm. Hannigan No. 1 Logsden, sec. 5, Blk. A-32. S.D. 5,020 ft.

Hannigan No. 1 Lotus Oil Co., sec. 18, Blk. A-48, P.S.L. Sur. Loc.

R. H. Henderson No. 1 J. E. Parker, sec. 25, P.S.L. Sur. A-43. T.D. 4,555 ft.; pulling csg.

Shell Pet. Corp. No. 1-E F. King, 660 ft. S and E, sec. 10, Blk. A-42, P.S.L. Sur. M.I.M.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 3,805 ft.

Crane County

Clark et al No. 1 Jordan, sec. 12, Blk. B-22, P.S.L. Sur. Drlg. 3,155 ft.

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. T.D. 3,828 ft.; mudding pipe.

Gulf Oil Corp. No. 2 Snodgrass, sec. 1, Blk. B-25. T.D. 3,550 ft.; P.B. 3,540 ft.; fsg.

Crockett County

T. P. Coal & Oil Co. No. 1 Bair, sec. 51 Blk. 1, I.&G.N. Sur. T.D. 955 ft.; straight-reaming.

Culberson County

Grisham & Hunter No. 1 fee, SE cor. sec. 22, Blk. 54, P.S.L. Sur. M.I.M.

Ector County

Sinclair Prairie Oil Co. No. 2-A Johnson, sec. 48, Blk. 43, Twp. 1s, T.&P. Sur. T.D. 3,980 ft.; R.U.S.T.

Edwards County

Plateau Oil Co. No. 1 Hatch. Drlg. 4,780 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless T.D. 2,030 ft.; ran csg.

Martin & Brubaker No. 1 Brown, W. E. Richardson Sur., sec. 4, Blk. R. T.D. 500 ft.; set csg.

Southern Oil Co. No. 1 Robinson, sec. 172, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. Drlg. 770 ft.

Gaines County

Amerada Pet. Corp. No. 1 Robbins, sec. 9, Sur. A-22. T.D. 4,806 ft.; bailing.

Stanolind O. & G. Co. No. 1 Morrow. Drlg. 4,926 ft.

Glasscock County

Fleetborn Oil Co. No. 1 Black Arrow, sec. 3, Blk. 34, Twp. 3s, T.&P. Sur. Fsg. 1,298 ft.

Shell Pet. Corp. No. 1 McDowell, sec. 41, Blk. 34, Twp. 2s, T.&P. Sur. Drlg. 1,656 ft.

Hockley County

Texas Co. No. 1 H. Slaughter, Labour 83, League 38, Zavala Co. Sch. Lds. T.D. 3,965 ft.; straightreaming.

Howard County

Dick Graham No. 1 Great West Ref. Co., sec. 32, Twp. 1n, T.&P. Sur. Spudded.

Johnson No. 3-C Hyman, sec. 88, Blk. 29, W.&N.W. Sur. R.U. and S.D.

R. A. Westbrook et al No. 1 G. T. West, 430 ft. from N and 390 ft. from W, sec. 48, Blk. 33, Twp. 1n, T.&P. Sur. R.U.S.T.

Hudspeth County

Haymon Krupp Oil & Ld Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. T.D. 2,635 ft.; U.R. csg.

Jones County

H. D. Egger et al No. 1 O. Roberts, sec. 26, Orphan Asylum Lds. Drlg. 1,650 ft.

Fain-McGaha, Inc., et al No. 1 Lotspeick, 220 ft. from N and E, sec. 40, Blk. 15, T.&P. Sur. Spdg.

Fain-McGaha, Inc., No. 1 Lewis et al, sec. 37, Blk. 15, T.&P. Sur. To spud.

McMann et al No. 1 Dyer sec. 12, Blk. 2, S.P.R.R. Sur. R.U.

Oyster & Griffith No. 1 Bumpass, A. Jones Sur., 3 mi. SW of Truby. Fsg. 2,440 ft.

Oyster et al No. 1 King, N. Scott Sur. No. 14. Drlg. 1,802 ft.

J. L. Reeves No. 1 Kelly, C. Martinez Sur., 1½ mi. N of Hawley. C.O. 2,050 ft.

Snoddy & Snoddy No. 1 Harvey, 2,490 ft. from N and E, sec. 9, Blk. 14, T.&P. Sur., 9 mi. S of Lueders. Loc.

Texas Inland Oil Co. No. 1 J. K. Pittard, sec. 37, Orphan Asylum Lds. S.D. 2,365 ft.; P.B. 2,340 ft.

Ungren & Frazier No. 1 J. J. Steele, sec. 11, Blk. 15, T.&P. Sur. Drlg. 1,107 ft.

Loving County

Mason Oil Co. No. 2 M. Kyle, sec. 20, Blk. 55, Twp. 1s, T.&P. Sur. Avgd. 316 bbls. day per week while C.O.; T.D. 3,903 ft.

Nolan County

Dr. Robinson Co. No. 1 E. Gabler, sec. 26, Blk. X, T.&P. Sur. Drlg. 2,875 ft.

Pecos County

Bahan & Rhodes No. 1-B Bonebrake, sec. 116, Blk. 8, H.&G.N. Sur. T.D. 2,290 ft.; sdwgng. pipe.

Hightower Oil Corp. No. 1 Holmes, sec. 6, Blk. C-3, E.L.R.R. Sur. S.D. 2,450 ft.

Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk. 11, G.H.&S.A. Sur.; 5,000-ft. test. Drlg. 300 ft.

Lee Pet. Corp. et al No. 1 J. L. Nutt, sec. 1, W. D. Henley Sur. T.D. 1,234 ft.; U.R.

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. T.D. 2,815 ft.; drlg. by tools.

S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. S.D. 4,246 ft.

Union Oil & Mining Co. No. 1-A Magnolia, sec. 5, Blk. 9, H.&G.N. Sur. R.U.R.

Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. T.D. 1,830 ft.; U.R.

Young Oil Co. No. 1 Perry, sec. 3, Blk. Z, T.C. Sur. To spud.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Drk.

A. H. Main No. 1 Greenlee, sec. 40, Blk. 347, 13 mi. NE of Marfa. M.I.M.

Reagan County

Bahan & Rhodes No. 1 Kloh, sec. 37, Blk. 37, Twp. 5s, T. & P. Sur., NW cor. of county. Drlg. 1,569 ft.

Reeves County

Grisham & Hunter No. 1 Montgomery, sec. 1, W. B. King Sur. R.U. rotary.

Schleicher County

Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; C.O.

Scurry County

Bristow & Cantrell No. 1 Tomlinson, sec. 122, Blk. 97, H.&T.C. Sur. M.I.M.

Taylor County

Superior Oil Co. of Tulsa No. 1 Cook Hrs. Drlg. 2,437 ft.

Terrell County

Ohio Oil Co. No. 1 M. H. Goode, sec. 26, Blk. 161, G.C.&S.F. Sur. Drlg. 8,051 ft.

Terry County

W. L. Pickens et al No. 1 Lewright, sec. 1, Blk. C-37, P.S.L. Sur. Drlg. 4,302 ft.

Upton County

J. H. Myles & Son No. 1 Hughes, sec. 91, Blk. Y, G.C.&S.F. Sur. Drlg. 863 ft.

Dan Short No. 1 Webb, sec. 174, Blk. E, C.C.S.D.&R.G.N.G. Sur. Fsg. 875 ft.

Ward County

Moran et al No. 1 Reynolds, sec. 21, Blk. 5, H.&T.C. Sur. S.D. 850 ft.

Wood et al No. 1 Boogher, 2,800 ft. from NE and 330 ft. from SE, sec. 8, Blk. 32, H.&T.C. Sur. Drlg. 342 ft.

Winkler County

Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. S.D. 4,520 ft.

Richardson Oils, Inc., No. 1 Humble-Walton, sec. 3, Blk. B-3, P.S.L. Sur. Drlg. 3,200 ft.

J. R. Sharp No. 1 Walton, 330 ft. from S and E, sec. 19, Blk. 77, P.S.L. Sur. Drlg. 300 ft.

Sun Oil Co. No. 1 Edwards, sec. 6, Blk. C-23, P.S.L. Sur. T.D. 3,175 ft.; shot; C.O. to test.

York & Harper et al No. 1 Gunter & Munson, sec. 7, Blk. C, G.M.M.B.&A. Sur. T.D. 828 ft.; set csg.

RANGER (CENTRAL TEXAS) DISTRICT

Callahan County

A. R. Forster No. 1 C. B. Snyder, NW cor. NE¼ county, sec. 139, B.B.B.&C. Sur. Loc.

H. V. House et al No. 1 R. Smart "B," 5 mi. SW of Admiral, W. T. Lassiter Sur. Drlg. 810 ft.

Hal Hughes No. 2 Williams, 7 mi. NE Baird, C SE¼ SE sec. 61, B.O.A. Sur. 2,500-ft. test; drlg. 2,113 ft.

Mesa Verde Oil Co. No. 1 Klepper, 3 mi. N Clyde, sec. 69, B.B.B.&C. Sur. Top sd. 1,626 ft.; set csg.

F. R. Midkiff No. 1 Hunt, NE cor. county, sec. 107, University School Lands. S.D. 295 ft.

J. V. Wright No. 1 Warren, W½ SW¼ sec. 110, B.B.B.&C. Sur. Drlg. 760 ft.

Coleman County

Anzac Oil Corp. et al No. 1-H Morris, 12 mi. NE Coleman, J. Harris Sur. No. 77. Drlg. 625 ft.

Midfield Oil Co. No. 1 T. H. Ward, sec. 274, W. Echels Sur. S.D.O. 1,500 ft.

Eastland County

F. J. Estes No. 1 Gentry, A. Popejoy Sur. S.D. 2,500 ft.

Hamilton County

Seaboard Oil Co. No. 1 fee, A. C. Grimes Sur., 10 mi. N of Huntington. Top Ellenberger 4,144 ft.

Palo Pinto County

D. H. & C. Drlg. Corp. No. 1 Davenport, 6 mi. SE Palo Pinto, L. F. Margaret Sur. A-309. T.D. 2,000 ft.

Paul Garrett No. 1 Mabry heirs, NE cor. county, sec. 2,572 ft. T.E.&L. Sur. S.D. 314 ft.

Palo Pinto O. & G. Corp. No. 1 Zimicki N edge Strawn, Henry Bird Sur. C.O. after shot.

Shackelford County

H. C. Akins et al No. 1 J. E. Swenson, C E½ sec. 14, A.B.&M. Sur. Loc.

Butler, Calhoun & Boynton No. 1 W. H. Green, 12 mi. SW of Albany, sec. 65, T. &P. Sur., Blk. 12. S.D. 1,405 ft.

Green, Jones & Stasney No. 1 Davis, 7 mi. S Morris-Buie pool, 220 ft. from S and W lines, sec. 29, T.&P. Sur., Blk. 13. Moving in.

Humble O. & R. Co. No. 1 Morris B, 2 mi. E Morris-Buie pool, sec. 188, E.T.R.R. Sur. Drlg. 390 ft.

Owen-Snebold Oil Corp. No. 1 Ivey, NW cor. county, sec. 159, B.B.B.&C. Sur. Est. 2,000,000 ft. gas; sd. 1,925-27 ft.; S.D. 1,927 ft.; W.O.C.

Reliance Oil & Roy. Co. No. 15 G. R. Davis, 2,295 ft. from N line, 1,914 ft. from E line, sec. 6, T.&P. Sur., Blk. 13, 4 mi. S of Bluff Creek pool. Machine.

Ungren & Frazier et al No. 1 Snyder, 3 mi. SW Sedwick, sec. 26, L.A.L. Sur. Ellenburger test. Rotary rig.

Stephens County

C. B. Christie et al No. 1 E. S. Maury, 4 mi. W of Crystal Falls, J. Koehler Sur., Abst. 26. Drlg. 2,600 ft.

W. T. Garret et al No. 1 Echols, 6 mi. SE of Ivan, W½, sec. 10, Blk. 3, S.P.R. R. Sur. Drlg. 3,210 ft.

Hanrahan & Bedingfield No. 1 Guest, 2 mi. NW Frankell, sec. 30, T.&P. Sur., Blk. 6. Spud. and S.D.

Mudge Oil Co. No. 1 W. P. Smith, 2 mi NW of Ivan, sec. 14, S.P.R.R. Sur., Blk. 2. S.D. 3,329 ft.; broken L. 3,326-74 ft.; acidized.

Tarrant County

F. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur. Drlg. 1,425 ft.

Throckmorton County

R. J. Williams et al No. 1 W. B. Parrott, 4 mi. NW of Woodson, sec. 961, T.E.&L. Sur. S.D. 2,612 ft.

Wise County

Texas-Canadian Dev. Co. No. 1 L. W. Still, NE cor. county, Isham Epps Sur. Loc. for 3,500-ft. test; M.I.M.

Central West Fields

(Continued from Page 82)

can be rsumed. This applies also to the rest of the counties in this field.

KENTUCKY FIELDS

Only one completion was reported in the Kentucky fields the past week and this well was completed before flood waters had risen over the banks. It was the W. E. Hupp & Co. No. 5 M. A. Hatchett, one-half mile east of Livermore, on the Rough River, in McLean County, which made 150 bbls. the first 24 hours after a shot.

INDIANA FIELDS

The Indiana fields, in the southern part of the state, are hard hit and operations have been suspended in that area. Some completions were reported, however, during the week. In Vanderburgh County, section 20, Center Township, J. M. Stevenson No. 6 J. W. Builtman made 3 bbls. the first 24 hours after a shot.

In Pike County, section 11, JeJfferson Township, Claude Trussler No. 1 Martha Hendron was a duster. In section 31, Washington Township, William Robeson No. 1 Dale Roberson had an initial production of 15 bbls. after a shot.

Oil Products Not Luxuries

LITTLE ROCK, Ark.—The "luxury tax act of 1937," now before the Arkansas general legislative assembly, specifically exempts all petroleum products, including gasoline, kerosene, lubricating oils, fuel oil, crude oil and natural gas.

PERSONAL

JOHN R. SUMAN, vice president in charge of production, Humble Oil & Refining Company, Houston, Tex., was toastmaster at the second annual Wyoming wild game dinner served to about 500 Texas and Oklahoma oil men at the Houston Club last week. Meeteese antelope, Grand Teton elk, and Two Ocean Pass moose made up the meat courses. A motion picture of the hunt was shown. The dinner was given by HARRY W. BASS, ERNEST COCRELL, BARNEY COCKBURN, WILLIAM COPLIN, S. P. BROWN, D. E. LEGAN, A. T. (Cap) McDANNALD, L. C. McMILLAN, S. S. (Pete) PARKER, GURNEY PEOPLES, A. H. ROWAN, E. H. SALRIN, FLOYD SENTER, R. Y. SMITH, I. L. (Swede) SORENSON and JOHN R. SUMAN.

JOHN H. LOFTIN, principal of the Borger, Tex., High School, has resigned that position to take a position with the United Carbon Company at Borger.

MRS. F. H. STOVER of the firm of Stover & Rawlings, Chatham, Ontario, has returned from a two months' visit to Oil City and Franklin, Pa., and Toledo, Ohio.

T. M. HARTIGAN, chief chemist of the Shell Company of Australia, after a visit in England and Europe, has returned to Australia, passing through the United States en route.

J. R. FRANTZ, vice president of the Le Roi Company, Milwaukee, Wis., is spending a few days at the Tulsa branch of the company on a trip that has taken him through the fields of California and the Mid-Continent area on a study of oil field power requirements and oil industry engine applications.

T. C. SKEEN, Columbian Steel Tank Company, Kansas City, Mo., is on a business trip through Oklahoma and North Texas.

FRANK RACHER of Petrolia, Ontario, left on January 28 for Trinidad under a drilling contract. Mr. Racher spent 16 years in the Trinidad field, but for the past five years has resided in Petrolia.

T. D. WILLIAMSON, JR., vice president of the Petroleum Engineering & Equipment Company, was graduated last week from the University of Kansas and has returned to Tulsa where he will be actively engaged in the sale of their equipment.

MARSHALL BROWN, production engineer for Gulf Oil Company, was recently transferred to Hobbs, N. Mex., from Drumright, Okla. Last May Mr. Brown returned from Venezuela, where he held an engineering position with the Venezuela Gulf Oil Company.

J. A. BERMINGHAM, who for the past several years has been in charge of the Texas Company's producing division in California, is now manager of the producing department in the company's South Texas division. F. C. SEALEY will become manager of the producing department of the company in California.

B. M. HOWELL has been appointed Tulsa representative of the Anchor Packing Company. His offices will be located in the Thompson Building.

M. T. RATHVON, general superintendent for the Argo Oil Corporation, Casper, Wyo., was a business visitor to Denver, Colo., last week.

T. B. LAMBERT, petroleum engineer, Shell Petroleum Company, has been recently transferred from Shreveport, La., to Iowa, La.

JOHN I. and P. D. MOORE, comprising the firm of Moore Brothers Corporation, have moved their offices from San Angelo, to Midland, Tex.

ERLE P. HALLIBURTON, of Los Angeles, Calif., president of the Halliburton Oil Well Cementing Company, was a business visitor in Houston, Tex., last week.

LEE A. POTTER, vice president of Barnsdall Refining Corporation, was elected Potentate of Zuhrah Temple Shrine of Minneapolis at the annual meeting held in January.

BALLARD BURGHER has been appointed chairman of the entertainment committee of the Dallas Petroleum Club party to be given on the Peacock Terrace of the Baker Hotel, Dallas, Tex., soon.

E. S. BLEECKER, chief geologist for Venezuela Gulf Oil Company, sailed from New York last week for a field trip in Venezuela. He will be absent from his New York office for more than a month.

CAPT. DAVID GEORGE WILLIAMS, manager of the marine department of the International Petroleum Company, sailed from New York aboard the Santa Barbara January 29 en route to Talara, Peru.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

After assessing two prominent eastern railroads' fines of $20,000 and $35,000, respectively, as a result of their granting rebates on freight rates to the Standard Oil Company, a federal court assessed a fine of $55,000 against the oil company—this was the beginning of the end of rebates.

Although dissolution of the Standard Oil Company has been ordered, the company has announced that the 72,000 employes in its refineries and offices will not lose their pension rights.

20 YEARS AGO

The Bureau of Mines report there is enough oil in the United States to last 128 years at the "current rate of consumption."

Iowa citizens "abused" a geologist because all they got out of his recommendations was a dry hole.

An average of five miles per day of main pipe line is being laid in the Mid-Continent.

10 YEARS AGO

The Seminole pool of Oklahoma is predicted to produce 300,000 barrels daily in short time.

Dr. Graham Edgar of the Ethyl Gasoline Corporation suggests the use of a reference fuel as a standard for evaluating the tendency of a gasoline to knock.

Ten billion dollars have been used in developing the petroleum industry to its present stage.

Gasoline was selling at Oklahoma refineries for 8½ cents a gallon and Mid-Continent 36 gravity crude was $1.90 a barrel or more than 50 per cent higher than at present.

Gas-lift, used experimentally before this, is finding a broad reception in the Seminole field of Oklahoma.

G. C. RIVES, scout for Standard Oil Company of Louisiana, has been transferred from Plackman to the Rodessa field.

H. W. BELL, Shreveport, La., oil operator, was appointed a member of the A.P.I. special study committee on taxes and well spacing.

F. W. SILSLEY, recently put in charge of California Company's marketing division at Cheyenne, Wyo., was in Casper, Wyo., last week.

C. C. ROSS, at one time geologist with the Canadian government and for the last 18 months minister of lands and mines of Alberta, has resigned.

E. B. WHARTON has recently formed a partnership with R. W. NORTON in a consulting petroleum engineering company in Shreveport, La.

PAUL G. WEIDNER, general superintendent of natural gasoline plants, Stanolind Oil & Gas Company, Tulsa, was in Casper, Wyo., recently on company business.

DR. MARNUM BROWN, now of the American Museum of Natural History, will head another fossil hunting expedition into Montana next summer. Doctor Brown discovered Bowdoin dome.

J. A. DE LANOY, chief purchasing agent of the Asiatic Petroleum Corporation, has been elevated to Knighthood in the Order of Oranje Nassau by Her Majesty Queen Wilhelmina of The Netherlands.

A. E. OLDHAM, former chief geologist of the Arkansas-Louisiana Gas Company, Shreveport, La., has resigned to accept a position in the same capacity with American Liberty Oil Company at Dallas, Tex.

PARAGRAPHS

L. C. RHOADS, Fort Worth, Tex., district manager for the Hercules Tool Company, of Tulsa, has just returned to his office after a week's trip through West Texas and New Mexico oil fields on company business.

ROBERT G. TAYLOR, president, Public Lands Oil and Gas Protective Association and head of the Wyoming Southern Oil Company, Denver, Colo., was in Douglas, Wyo., last week making preparations to resume work on the second test on the Salisbury lease in West Shawnee Creek gas area, Converse County, Wyo.

ALBERT F. SHULTE, manager of the right of way department of Standard Oil Company, has retired after 35 years of active service with that company and he has been succeeded by SAMUEL W. SELFRIDGE, who for some time has been assistant manager of the right of way department with offices in Los Angeles, Calif.

RUSSELL S. McFARLAND, vice president of the Seaboard Oil Corporation, Dallas, Tex., and former vice president of the Dallas Petroleum Club, has been elected president of that organization for 1937. HARRY S. MOSS was elected vice president and FRANK I. BRINEGAR, secretary-treasurer. JOHN B. COWDEN was named chairman of the house committee.

JAMES N. DUNLAVEY with the New Mexico division of the Skelly Oil Company visited the Tulsa headquarters of the company last week.

ED NOLAN of the Frick-Reid Supply Company is now located at the El Dorado, Ark., offices of the company. He has been succeeded in Tulsa by F. C. BRYAN.

DUNCAN COOK, meter expert, has recently been employed by Louisiana Department of Conservation, and stationed in the northwestern division office of the commission at Shreveport, La.

TORREY H. WEBB, assistant to the president of the Texas Company of California with headquarters at Los Angeles, Calif., was a business visitor to the company's offices at Houston, Tex., the past week.

P. L. DICKERSON, formerly associated with the natural gasoline department of the Skelly Oil Company, and W. D. FINLEY, formerly with the Indian Territory Illuminating Oil Company, have accepted positions with the Tropical Oil Company in Colombia.

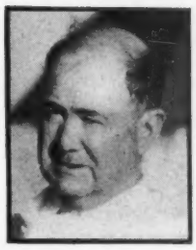
JOHN A. CHAPMAN, who has been assistant general manager of the Lucey Products Corporation, has been appointed general manager and a director of the corporation. R. S. LEVERING, vice president, has also been appointed a director of the corporation.

JOE HEYCK, district scout for the Humble Oil & Refining Company, with headquarters at Lake Charles, La., has been transferred to Baton Rouge, La., as scout of the southeast Louisiana and Mississippi districts. J. H. BOLANDER, scout at the Corpus Christi, Tex., district, has been transferred to Lake Charles replacing Mr. Heyck.

GURNEY PEOPLES, division manager for Black, Sivalls & Bryson, Inc., is sick at his home in Fort Worth, Tex., with the influenza.

ED RUMSEY, scout for the Shell Petroleum Corporation in Kansas and the Rocky Mountain Divide, with headquarters at Garden City, Kans., has been transferred to Amarillo, Tex. A. E. PALMER, in the same department, who has been at Amarillo, has been moved to Great Bend, Kans.

EARL B. NOBLE, assistant manager of exploration of Union Oil Company, has been appointed chief geologist and HAROLD W. HOOTS has been appointed assistant chief geologist with offices in Los Angeles, Calif. Mr. Noble is a graduate of Yale University and Mr. Hoots, who spent several years with the U. S. Geological Survey, is a graduate of Stanford University. Coincident with the elevation of Messrs. Noble and Hoots, JOHN L. CHURCH was appointed manager of lands with headquarters in the Union Oil Building at Los Angeles.

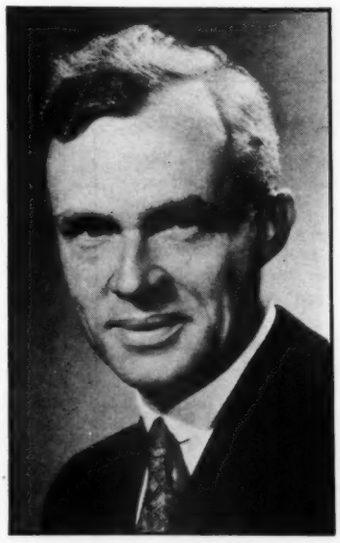


EDWARD B. McFARLIN, wildcatter and oil producer of Tulsa, recently was awarded a gold button and a 20-pound bonito at Palm Beach, Fla., for the feat of catching a sailfish measuring 8 feet 1¼ inches, reported the largest caught this season in offshore Florida waters. Using light tackle, it required about one hour to land the fish. Accompanying Mr. McFarlin on this trip is his son, JOHN R. McFARLIN, who also had a good day fishing, catching two large sailfish, one measuring 6 feet 11½ inches, and the other 7 feet 9½ inches long.

L. P. ST. CLAIR, president of Union Oil Company, is rapidly recuperating from injuries sustained late in December when struck by an automoble in Los Angeles, Calif.

You Have to Hunt Them

Dr. E. F. Davis, vice president of the Shell Oil Company in charge of exploration, sticks to the old-fashioned idea that if you want to find prospective oil structures you've got to hunt for them. You don't run across them while driving comfortably along well-paved highways. So he parks his car and heads for the pathless wastes.



DR. E. F. DAVIS

Doctor Davis was born in Hyde, Colo., in 1887. He graduated from the University of California College of Mining with the degree of B. S. in 1910. He was awarded an M. S. in 1912 and a Ph. D. in 1917. He was instructor in geology and mineralogy at the university from 1912 to 1919. In the latter year the young man joined the Shell's gelogical staff. First he was assigned to Albuquerque, N. Mex. Later he was transferred to Salt Lake City, and in 1920 he was placed in charge of the Shell's exploration activities in Utah. The next year he was moved to Cheyenne, Wyo., and in 1922 he was sent to California as chief geologist. His advancement to vice president, with direction of all the company's exploratory work, took place in 1928.

With his wife and a daughter Doctor Davis resides in Beverly Hills, Calif. He is an expert in photography and likes horseback riding as a diversion. He is a member of the Geological Society of America, American Institute of Mining and Metallurgical Engineers, American Association of Petroleum Geologists and other organizations.

FRED C. HALL, of the Henderson Company, Amarillo, Tex., was in Washington, D. C., last week.

E. D. KILINGER, formerly of San Antonio, Tex., has been appointed head of the recently established geological department of Lion Oil Refining Company, El Dorado, Ark.

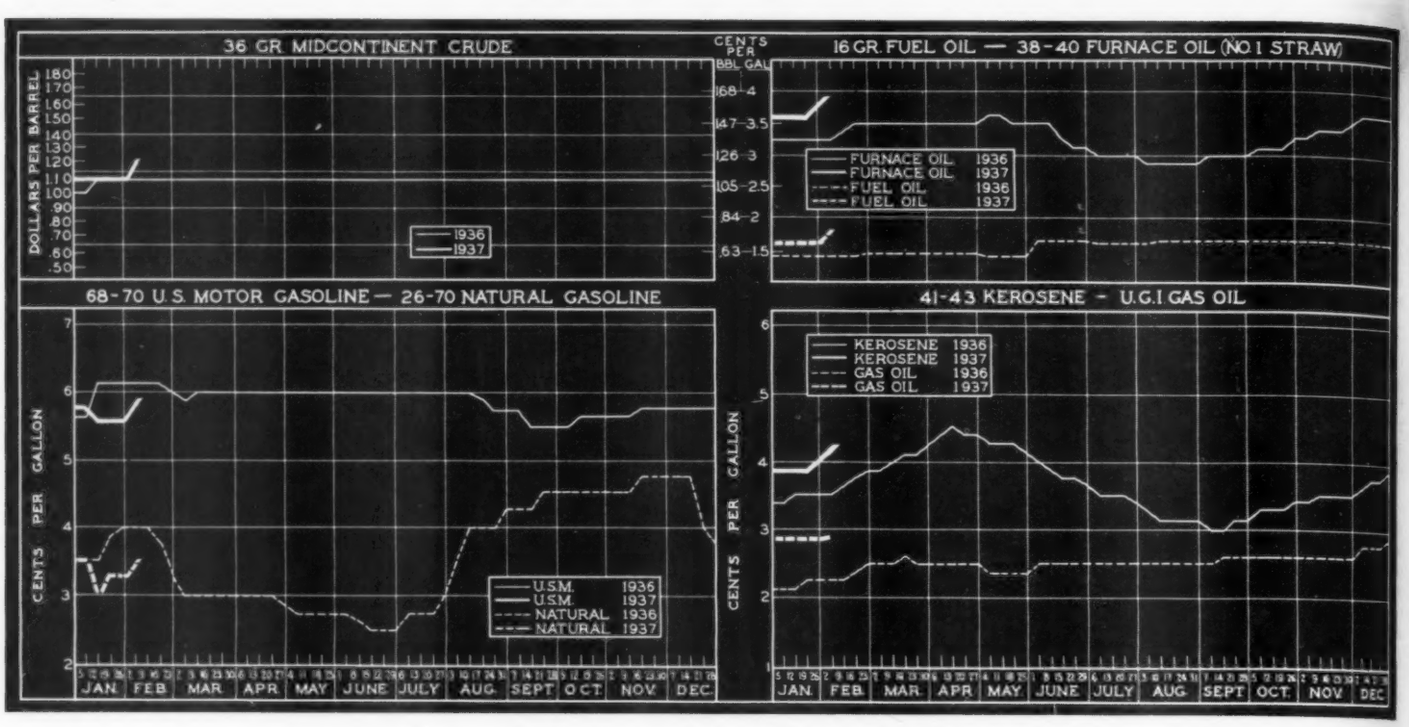
M. G. CHENEY, president of the Anzac Oil Company, delivered the principal address at the January meeting of Shreveport, La., Geological Society, having as his topic "The Migration of Oil."

K. N. SAATJIAN of the Texas Company, Los Angeles, Calif., has been appointed chairman of the American Petroleum Institute's subcommittee on the standardization of wire rope and manila cordage.

C. H. THIGPEN, recent graduate from Louisiana State University, has been employed as junior Petroleum engineer by the Louisiana Department of Conservation, and has been stationed in the northwestern division office of the commission at Shreveport, La.

JOHN T. SCOTT and B. V. EMERY who have been associated in the B. V. Emery Company have organized the Dixie Oil & Gas Company with headquarters in the Hunt Building, Tulsa. They will operate in the Mid-Continent fields. R. W. REYNOLDS has been elected a vice president of the new company.

D. G. SAFFORD, production superintendent of the Louisiana Gulf Coast division for Stanolind Oil & Gas Company at Lake Charles, La., has been transferred to the company's offices at Tulsa. GILBERT PRINCE, of the production department at Houston, Tex., has been transferred to Lake Charles replacing Mr. Safford.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Refined Oils Lifted to Higher Levels in Group 3 by Crude Price Raise

By T. F. SMILEY

A general lifting of refined-oil tankcar quotations in the Group 3 area following the recent raise in crude prices was accompanied this week by a firmer market tone, attributed in large measure to the ending of uncertainty regarding the course major buyers of crude would take. There was division of opinion in the trade as to the wisdom of advancing crude prices at this particular time, but there was virtual unanimity with regard to the better position of the market, making an exception perhaps of gasoline.

SOME ASK HALF-CENT MORE

There was a pretty wide feeling among refiners this week that they were entitled to a half-cent a gallon more for gasoline than they received before the crude advance. The Mid-Continent Oil Corp. led a relatively small group of refiners in announcing a half-cent increase on all grades. The others marked up their prices a quarter-cent.

Jobbers were loath to pay even a quarter-cent more unless the tank-wagon price was raised accordingly. Some of them refused to buy a gallon more than was absolutely necessary. Others, and these were in the majority, accepted the fact that tankcar prices were up and might go higher. These began buying, reasoning that inaction might mean the necessity of paying still more a little later.

Flood conditions along the Mississippi River and its tributaries have brought motor travel almost to a standstill in large areas, cutting gasoline sales close to the vanishing-point. Group 3 refiners as a whole have not felt the effect of the flood severely. They have lost business in Tennessee as the result of high water, but also they are receiving orders from parts of Indiana and Ohio which regularly are served by Kentucky refineries which now are flooded.

The East Texas area was reported to be well cleaned up. There has been a negligible movement of gasoline from that region to northern points in the last 60 days, most of the shipments having been to the Gulf Coast for export or the East Coast, where a moderate winter has encouraged use of motor cars.

Market observers said much of the unsettled feeling concerning the price of gasoline, manifested since the crude advance, would disappear after stocks now in brokers' hands had been disposed of and broker buying under the changed conditions had started. Some refiners who were selling the regular grade at 5⅞ cents for immediate shipment refused to make contracts for future delivery on that basis.

One of the tightest sections of the refined market was that occupied by the heavy oils. Grades suitable for railroad and industrial use were astonishingly hard to find. Buyers reported they had combed most of the Mid-Continent territory in search of this material and found little available at any price. Quotations were sharply higher.

FURNACE OILS SCARCE

Furnace distillates were increasingly scarce. Some of the large refiners who had stored material report themselves sold out. Small refiners, who depend on day-to-day business, had already depleted their limited stocks. Many refiners instead of making furnace oils are now turning to tractor distillates, for which there is likely to be vigorous demand when spring plowing starts in the early part of March.

The whole range of light fuels was strong, particularly prime-white and No. 1 straw. Some refiners were refusing to sell at the prevailing prices even for immediate shipment. Kerosene and tractor fuels were up.

Bright stocks and neutrals went up a half-cent all along the line, and they seemed to be headed still higher. Wax was firm at unchanged prices.

Natural gasoline went up a quarter-cent on all grades Monday, the 26-70 material commanding 3½ cents in Oklahoma and 3¼ cents in Texas. Little change was noted in jobber buying, which continued fair. Refinery purchases were for immediate blending. Some refiners had canceled part of their orders for daily shipments of natural, but when the crude prices were raised they not only resumed their takings, but increased them. Demand was firm, and predictions were that the next change in prices would be upward.

Refined Oil Market Barometer

Refinery quotations higher following advance in crude prices. Notwithstanding differing opinions as to just what the new prices should be, the market generally is believed in better position. A new development is the scarcity of heavy fuels. Urgent demand for all burning oils continues. Flood damage and mounting stocks of gasoline causing some uneasiness.

MID-CONTINENT. Heavy fuels in urgent demand. Prices of all products higher.

EAST COAST. Bunker C fuel and gasoline carried up by brisk demand. Heating oils firm.

GULF COAST. Market strong. Prices up.

CALIFORNIA. Offshore business brightens with virtual end of marine strike.

PENNSYLVANIA. Bright and cylinder stocks up. Wax strong. Gasoline soft.

CHICAGO. Tankcar prices reflect higher crude prices. Kerosene and fuels strong.

Crude Advance, Brisk Demand Raise Refinery Prices on Eastern Coast

By H. STANLEY NORMAN

NEW YORK, Feb. 2.—Riding on the crest of brisk demand and higher crude prices, Bunker C fuel was raised 5 cents a barrel and gasoline one-half cent a gallon last week by most major marketers. Higher Bunker C fuel prices were not entirely unexpected since talk of a 5-cent advance had been current in the industry for more than six weeks.

The raise, launched by Gulf Oil Corp. and followed within 24 hours by other large companies, lifted Bunker C fuel at most North Atlantic terminals to $1.20 per barrel. The raise at Charleston, S. C., was to $1.15 per barrel and to $1.00 at Baton Rouge and New Orleans.

The Bunker C grade of fuel oil has been moving briskly to ocean terminals and to shore plants.

Heavy fuels have been on the strong side of the market for several weeks. While occasionally a consumer is reported switching to competitive fuels, the higher rates of consumption of industrial customers and greater netback to refiners are considered ample justification for moving forward. Refiners have realized for some time that increase of prices even slightly would mean loss of certain classes of business to competitive fuel and this knowledge probably has had a depressing effect on earlier advances. The crude price increase is too recent to register tangible influence in the refined products' market, but in less than 24 hours after the general advance was announced by companies affiliated with Standard Oil Co. of New Jersey, even the weakest materials seemed stronger. The crude advance precipitated an abrupt halt in reports of price shading in the gasoline market in New York harbor. While the general range of prices on refined products remained unchanged up to the end of last week, the crude advance probably will permanently end shading on gasoline and kerosene. In fact, colder weather during most of last week had eliminated most of the reports on kerosene sales below the regular market level. A majority of suppliers were quoting 5⅝ cents per gallon on kerosene in barges in the New York territory. Up until colder weather set in a week ago, reports were current that business in kerosene could be done at 5.5 cents.

However, supported by a firm market on the Gulf Coast and now further supported by higher crude quotations, prospects for the kerosene market point upward. Several companies, however, had been on the buying side of the kerosene market even with consumption below normal expectancy. Further protection of their short kerosene position probably will be forced on several companies if February brings the cold temperatures expected under the law of averages. Light fuel oils were again moving in a moderate manner and the market seems in little danger of declining. In view of the heavy consumption of light fuel oils even with only moderate winter temperatures prevailing, there seems little doubt that refiners would have been hard pressed to supply demand if a normal or severe winter had developed. Last summer's record installation of new oil burning units has enabled the industry to enjoy reasonably brisk demand at firm prices although the per unit consumption has been far below expectancy.

As in the case of kerosene, light fuel oils ranging from No. 2 grade down have been firmly held on the Gulf Coast where refiners' stocks are in good condition and the movement against contracts in satisfactory quantity. As in the case of other products, higher prices are expected by the trade in general following the crude advance.

The Gulf Coast export market lacked the snap prevalent during the preceding two weeks. One cargo of 70 octane gasoline for March loading was sold during the week at 6.125 cents per gallon, f.o.b the Gulf. Gasoline of lower specifications was more freely available with a cargo or more of 65-66 octane offered at 5⅞ cents per gallon. The higher grades were particularly scarce, however, and no supplier was in position to load a cargo during February, it was reported.

Much the same conditions apply to kerosene and light fuel oils. Several cargoes for February loading were contracted early in January and while shipments to north Atlantic ports have not been as heavy as expected, refiners' stocks are in such shape that price shading has not been adopted as a means of stimulating interest.

Demand, even at increased prices, for Pennsylvania lubricating stock continues to feature the refined market in that district. Purchases by refiners to supplement their own production of bright stocks continue even at prices advanced a half cent. All grades of cylinder oils, including bright stocks, were advanced a half cent as demand continues to remain above supplies. The export demand for various grades of cylinder stock has been particularly brisk this winter and has contributed immeasurably to counter seasonal tendencies. Further, only bare requirements of West Coast customers are being shipped by rail and some portion of stocks in Pennsylvania refiners' storage have been sold but remain undelivered. Settlement of the Pacific Coast marine strike would precipitate shipping instructions on most of this material.

Better qualities of gasoline produced in the western Pennsylvania refining district have recovered from price shading reported a week ago and prices of 7¼ cents per gallon are generally quoted for 65-68 material. Some gasoline of 65 octane or better had been reported sold in the western Pennsylvania area at 7 cents the preceding week. Production schedules of most refineries in the Ohio River valley were entirely halted or seriously restricted by the record flood. No complete survey of the plant damage along the river has been attempted, but from meager information available the rehabilitation bill will be large at refineries in the most severely affected areas.

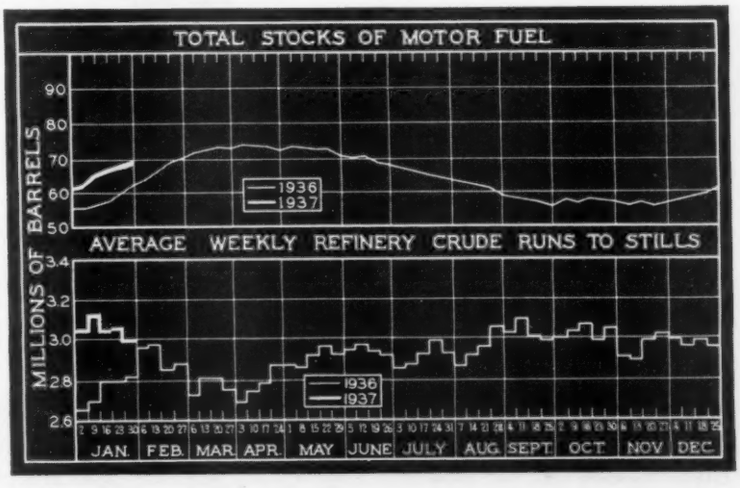
Generally speaking, the consumption of refined products in the north Atlantic territory is running above expectations. This applies particularly to gasoline with most all companies reporting satisfactory increases over similar periods in 1936. The mild winter so far experienced in the New York district has restricted automobile driving only to a minor extent while fleets of trucks and light delivery units have been permitted to operate at almost summer rates. Only occasional references are made to the existing gasoline stocks and most marketers and refiners feel they are not excessive in view of almost certain increases in consumption for the year. Service station prices in New York and in fact the entire northeastern territory are reasonably stable. There has been practically no change in retail prices quoted for two weeks. The mild case of price cutting which broke out in Brooklyn three weeks ago did not influence as much business as at first feared. It now appears that the retail price break was based on a temporary supply of material and that the instigators of the lower postings have completely or are gradually abandoning their positions. Failure of competitive dealers to retaliate probably helped to clear up the situation which threatened for a time to affect business throughout the metropolitan area.

A. P. I. Weekly Refinery Statistics

Week Ending January 30, 1937

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	517,000	14,543,000	8,479,000
Appalachian	88.4	103,000	2,546,000	616,000
Indiana, Illinois, Kentucky	89.5	391,000	11,055,000	5,102,000
Oklahoma, Kansas, Missouri	88.6	290,000	7,647,000	2,939,000
Inland Texas	54.3	99,000	1,956,000	1,430,000
Texas Gulf	95.5	682,000	9,854,000	6,901,000
Louisiana Gulf	96.3	140,000	1,648,000	1,836,000
North Louisiana and Arkansas	63.7	30,000	360,000	473,000
Rocky Mountains	69.7	42,000	1,402,000	709,000
California	90.9	468,000	13,723,000	71,099,000
Total reported	88.4	2,762,000	64,734,000	99,584,000
Estimated unreported	.....	233,000	4,806,000	2,494,000
*Estimated total	.....	2,995,000	69,540,000	102,078,000
*Estimated total previous week	.....	3,055,000	68,180,000	103,441,000
*February 1, 1937	.....	2,820,000	63,360,000	100,268,000

*Bureau of Mines basis, currently estimated.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of February 2, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank-wag.
Chicago, Ill.	15.7	13.7	4.0	9.8
Decatur	15.7	14.2	4.0	9.8
Joliet	15.7	14.2	4.0	9.8
Peoria	15.7	14.2	4.0	9.8
Quincy	15.5	14.0	4.0	9.6
Davenport, Ia.	15.7	14.2	4.0	9.8
Des Moines	15.5	14.0	4.0	9.6
Mason City	15.9	14.4	4.0	10.0
Sioux City	15.7	14.2	4.0	9.8
Duluth, Minn.	16.5	15.0	4.0	10.6
Mankato	16.1	14.6	4.0	10.2
Twin Cities	16.1	14.6	4.0	10.2
La Crosse, Wis.	17.1	15.6	5.0	10.2
Green Bay	17.4	15.9	5.0	10.5
Milwaukee	17.0	15.5	5.0	10.1
Detroit, Mich.	14.5	13.0	4.0	9.5
Grand Rapids	16.2	14.7	4.0	10.6
Saginaw	16.0	14.5	4.0	10.4
Evansville, Ind.	17.2	15.7	5.0	†10.3
Indianapolis	17.4	15.9	5.0	†9.3
South Bend	17.6	16.1	5.0	†9.2
Fargo, N. Dak.	17.1	15.6	4.0	11.2
Minot	18.3	16.8	4.0	12.4
Huron, S. Dak.	17.5	16.0	5.0	10.6
Kans. City, Mo.*	15.1	13.6	4.0	8.6
St. Louis*	15.4	13.9	4.0	9.5
St. Joseph*	15.1	13.6	4.0	9.2
Wichita, Kans.	14.6	13.1	4.0	8.6

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
Atl'tic City, N.J.	13.0	11.5	4.0	8.0
Newark	13.0	11.5	4.0	8.0
Annapolis, Md.	15.1	13.6	5.0	10.0
Baltimore	14.5	13.0	5.0	9.0
Cumberland	17.1	14.6	5.0	10.0
Wash'g'n, D.C.	12.5	11.0	3.0	9.0
Danville, Va.	17.7	15.2	6.0	12.9
Norfolk	16.5	14.0	6.0	11.5
Petersburg	16.8	14.3	6.0	11.7
Richmond	16.8	14.3	6.0	11.7
Roanoke	18.0	15.5	6.0	12.9
Charles'n, W. Va.	16.3	13.8	5.0	12.6
Parkersburg	15.6	13.1	5.0	11.2
Wheeling	15.5	14.0	5.0	12.2
Charlotte, N. C.	18.9	16.4	7.0	12.6
Hickory	19.4	16.9	7.0	13.0
Mt. Airy	19.2	16.7	7.0	12.8
Raleigh	18.5	16.0	7.0	12.1
Salisbury	19.0	16.5	7.0	12.7
Charleston, S. C.	17.5	15.0	7.0	11.1
Columbia	18.5	16.0	7.0	12.1
Spartanburg	19.2	16.7	7.0	12.9

Standard of N. J. has discontinued posting service-station prices at all above points except at Washington where a price of 15.5 cents is in effect.

Price basis to commercial consumers, effective Nov. 2, 1936: On deliveries of 500 gallons or more by hose connection, consumer tankcar price plus .5 cent; less than 500 gallons, plus .75 cent, not taking deliveries by hose connection, plus 1 cent. Above schedule does not apply to North and South Carolina. Deliveries of 50 gallons or more by tank-wagon billed at price 2 cents over posted consumer tankcar price in effect at time and place of delivery. Deliveries less than 50 gallons billed at price .6 cent over posted tankcar price. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero
	Tank wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	21.5	18.5	7.0	*14.5
Augusta	20.5	17.5	7.0	*14.0
Macon	21.0	18.0	7.0	*14.5
Savannah	19.5	16.5	7.0	*13.0
Birm'ham, Ala.	22.0	19.0	8.0	13.0
Mobile	20.0	17.0	9.0	12.0
Montgomery	23.0	20.0	9.0	14.0
Jackson, Miss.	21.0	18.0	7.0	*13.0
Vicksburg	20.5	17.5	7.0	*13.0
Jacksonville, Fla.	20.0	17.0	8.0	12.0
Miami	20.0	17.0	8.0	12.5
Pensacola	22.5	19.5	9.0	12.5
Tampa	21.0	18.0	8.0	12.0
Lexington, Ky.	19.0	16.0	6.0	11.0
Covington	18.5	15.5	6.0	11.0
Louisville	19.0	16.0	6.0	10.0
Paducah	19.0	16.0	6.0	10.0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, and Tampa, Fla., have a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Dealer	Serv. sta.	Inc. tax	tank-wag.
Denver, Colo.	17.0	....	5.0	11.0
Grand Junction	19.5	....	5.0	15.0
Pueblo	17.0	....	5.0	10.0
Casper, Wyo.	17.5	....	5.0	11.5
Cheyenne	17.5	....	5.0	13.0
Butte, Mont.	19.0	....	6.0	14.5
Billings	20.5	....	6.0	14.5
Helena	20.5	....	6.0	14.5
Great Falls	20.5	....	6.0	14.5
Salt Lake, Utah	19.0	....	5.0	16.0
Twin Falls, Ida.	21.0	....	6.0	18.0
Boise	20.5	....	6.0	18.0
Albu'que, N. M.	17.0	....	6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price 4 cents except in Montana where a discount of 2 cents off tank-wagon price is allowed; divided dealer accounts 3½ cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag.
Ohio points	17.5	(†)	5.0	*13.5

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service station price.

Pacific Coast Territory

STANDARD OIL CO OF CALIFORNIA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	18.0	19.0	4.0	12.0
Phoenix, Ariz.	20.5	21.5	6.0	‡16.0
Reno, Nev.	19.5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20.5	6.0	13.5
Spokane	22.5	23.5	6.0	16.5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
Albany, N. Y.	13.0	11.5	4.0	7.75
*Met. N. Y.:				
Manh't'n, Br'nx	13.0	11.5	4.0	7.25
Staten Island	13.25	11.5	4.0	7.25
Q'ns & Brklyn	13.0	11.5	4.0	7.25
Buffalo	13.8	12.17	4.0	8.25
Rochester	13.8	12.24	4.0	8.25
Syracuse	13.8	12.2	4.0	8.75
Boston, Mass.	12.8	11.25	4.0	7.50
Portland, Me.	14.8	12.5	5.0	7.75
Manch'ter, N. H.	15.3	13.0	5.0	8.00
Burlington, Vt.	14.9	12.9	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point: Monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
Philadelphia, Pa.	14.0	12.5	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.0	12.75	5.0	10.5
Erie	14.0	12.75	5.0	10.5
Scranton	14.0	12.75	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	14.0	....	5.0	10.5
Wilmington	13.0	....	5.0	10.5
Springf'd, Mass.	13.3	....	4.0	7.5
Worcester	13.8	....	4.0	8.0
Hartford, Conn.	13.1	....	4.0	7.5
New Haven	13.0	....	4.0	8.0
Providence, R.I.	11.8	....	3.0	7.5

Atlantic has transferred all stations to dealers except in Philadelphia and Pittsburgh where prices are 17.5 and 18.5 cents per gallon respectively.

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tankcar price; over 100,000 gallons per year, .5 cent above posted tankcar price.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	tank-wag.
Omaha	18.1	16.6	6.0	10.1
McCook	18.8	17.3	6.0	10.8
Norfolk	18.5	17.0	6.0	10.5
North Platte	18.9	17.4	6.0	10.9
Scotts Bluff	19.6	18.1	6.0	10.6

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wag. dlr.	Tank car con'r.	Inc. tax	tank-wag.
N. Orleans, La.	20.0	17.5	*10.0	†13.0
Baton Rouge	18.0	15.5	8.0	12.0
Alexandria	18.5	16.0	8.0	12.0
Lafayette	19.0	16.5	8.0	12.5
Lake Charles	19.0	16.5	8.0	12.0
Shreveport	17.5	15.0	8.0	11.0
Knoxville, Tenn.	21.0	18.5	8.0	14.0
Memphis	19.0	16.5	8.0	12.0
Chattanooga	20.5	18.0	8.0	13.5
Nashville	20.0	17.5	8.0	13.0
Bristol	19.75	18.5	8.0	14.5

*Includes 2-cent parish tax. †Includes 1 cent parish tax and 1 cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where prices are 21.0 and 21.0 cents per gallon, respectively.

Price basis to commercial consumers, effective Dec. 21, 1936, deliveries of 10 gallons or more in one delivery, posted consumer tankcar price plus 2 cents per gallon; consumers taking deliveries of less than 50 gallons at one time pay posted consumer tankcar price plus 6 cents per gallon.

Louisiana kerosene prices include 1-cent state tax.

Naphtha

STANDARD OIL CO (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Dealer	Serv. sta.	Inc. tax	tank-wag.
Muskogee, Ok.	15.0	....	5.0	7.0
Okla. City	15.0	....	5.0	8.0
Tulsa	15.0	....	5.0	8.0
Ft. Smith, Ark.	14.5	....	5.0	8.0
Little Rock	17.0	....	7.5	8.5
Texarkana	14.5	....	5.0	8.5

Texas

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag.
Dallas, Tex.	14.0	18.0	5.0	9.0
Fort Worth	14.0	18.0	5.0	9.0
Houston	14.125	18.5	5.0	9.0
San Antonio	14.125	18.5	5.0	9.0

Tank-wagon price is to contract dealers and commercial consumers, the price to open dealers being .5 cent above tank-wagon price.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank-wag.
Hamilton, Ont.	21.0	....	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.1
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	....	7.0	22.0
Saskatoon, Sask.	32.3	....	7.0	24.1
Edmonton, Alta.	30.5	33.5	7.0	24.1
Calgary, Alta.	28.0	31.0	7.0	21.1
Vancouver, B. C.	22.0	26.0	7.0	23.0
Montreal, Que.	18.5	....	6.0	17.6
St. John, N. B.	24.0	28.0	8.0	18.1
Halifax, N. S.	24.0	28.0	8.0	18.1

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil Co. of California, January 27, announced the price of gasoline and kerosene was changed in many points in California, following an increase in freight rates by order of the California Railroad Commission. Where increases occurred, the maximum increase was 1 cent a gallon, and the minimum one-half cent a gallon. There were a small number of decreases, and no change in the price at many points.

Standard Oil Co. of California January 27 advanced tank-wagon and station gasoline .5 cent and tank-wagon kerosene 1 cent in Fresno.

Standard Oil Co. of New Jersey and the Standard of Louisiana increased gasoline wholesale and retail prices one-half cent throughout their territories except in Delaware effective February 1.

Standard Oil Co. (Indiana) raised gasoline tank-wagon prices in Michigan .3 to .6 cent per gallon February 2, but the changes are not included in the accompanying table.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of February 2, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S Motor grades:		
62 octane and below (3d gr.)	.04¾	.05
63-67 octane	.05¼	.05⅝
68-70 octane (regular)	.05⅝	.06
60-62 400 grades:		
62 octane and below (3d gr.)	.04¾	.05
63-67 octane	.05¼	.05⅝
68-70 octane (regular)	.05⅝	.06
64-66 375	.05¼	.05⅜
68-70 360	.05⅜	.05½

NORTH TEXAS—

U. S Motor grades:		
62 octane and below	.04¾	.05
63-67 octane	.05¼	.05⅜
68-70 octane (regular)	.05⅜	.05⅝
60-62 400	.04¾	.05
64-66 375	.05	.05¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S Motor grades:		
62 octane and below	.05⅝	.06
63-67 octane	.06½	.06⅝
68-70 octane (regular)	.06¾	.06⅞

ARKANSAS (Ark., N. La., Miss. del.)—

U. S Motor grades:		
62 octane and below	.05⅝	.06
63-67 octane	.06½	.06⅝
68-70 octane (regular)	.06¾	.06⅞

CHICAGO (Based on Group 3)—

U. S Motor grades:		
62 octane and below	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05⅜	.05½
60-62 400 grades:		
62 octane and below	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05⅜	.05⅝
64-66 375	.05	.05¼
68-70 360	.05¼	.05½

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05¼
60-64.9 octane	.06¾	.07
65-70 octane	.07	.07¼
64-66 375		.05½
68-70 350		.05⅝

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400, 65 octane and higher	.07¾	.08¾

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06¾
Baltimore		.06¾
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.07
Philadelphia	.07	.07¼
Boston		.07½
Baltimore	.07	.07¼
Charleston, S. C.		.07½
U. S. Motor, 65 and above:		
*New York (Bayonne)		.07¼
Philadelphia	.07¼	.07½
Boston		.07½
Baltimore	.07¼	.07½
Charleston, S. C.		.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S Motor grades:		
Below 60 octane	.05⅝	.05½
60-64.9	.05⅝	.05⅝
65 octane and higher	.05⅞	.06

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)		.05½
52-54 450 (blending)		.05½
54-56 450 (blending)		.05¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03½	.03⅝
Grade 18-55	.04¼	.04½
Low vapor pressure grade:		
*14-pound v.p. (max.)	.04⅞	.05
*12-pound v.p. (max.)	.05¼	.05½

*Nominal.

NORTH TEXAS—

Grade 26-70	.03¼	.03½
Grade 18-55	.04	.04¼

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70		.03⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.04⅛	.04¼
41-43 gr., 300-350 l.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04⅜
46-48 gr., 210-230 l.b.p., 480 max. e.p.	.04⅝	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04¼	.04⅜
42-44	.04⅜	.04½

NORTH TEXAS—

41-43	.04¼	.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43		.04½

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.05¼

PENNSYLVANIA (inland refineries)—

45		.05⅛
46		.05¼
47		.05⅜

CHICAGO (Based on Group 3)—

41-43	.04¼	.04¼
42-44	.04¼	.04⅜

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.03¼	.04¼

NEW YORK (Bayonne, N. J.)—

41-43		.05⅜

*GULF COAST (domestic)—

41-43		.05½

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.04	.04¼
No. 1 straw, 38-40	.03⅞	.04
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03⅝	.03¾
No. 3, zero to 15, 28-32	.03½	.03⅝
No. 3, 15 and above, 28-32	.03	.03⅛

NORTH TEXAS—

No. 1 prime white, 38-42		.03⅞
No. 1 straw, 38-40	.03¾	.03⅞

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03¾	.03⅞

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03⅞	.04
No. 3, 28-32	.03⅝	.03⅞

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03⅝	.03⅞
No. 2 dark, 32-36	.03⅝	.03⅞
No. 3, zero to 15, 28-32	.03½	.03⅝
No. 3, 15 and above, 28-32	.03½	.03⅝
NEW YORK (Bayonne, N. J.)—		
*No. 1		.05⅝
*No. 2		.05
*No. 4		.04⅝

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low cold test, 24-28	1.00	1.05
No. 4, 15 and above, 24-28	.80	.87½
No. 5, low cold test, 18-22	.82½	.90
Below 18 fuel oil, industrial	.77½	.82½

NORTH TEXAS—

U.G.I. gas oil	.02¾	.03
No. 4, low cold test, 24-28	.95	1.05
No. 5, low cold test, 18-22	.80	.85
Below 18 fuel oil, industrial	.70	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅞	.03
10-14 fuel oil, industrial	.75	.80

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.65	.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low cold test, 24-28	1.00	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test, 18-22	.77½	.80
No. 6, low cold test, 10-16	.70	.72½

PENNSYLVANIA (inland refineries)—

36-40	.04⅝	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbls.	1.00	1.25
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.05	1.35
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.75	.95
12-17 (tankcars)	.75	.95
San Joaquin Valley:		
10-18 (tankcars)	.70	.80
24 plus diesel per bbl.	.95	1.35
San Francisco:		
27 plus diesel		1.40
24 plus diesel (bunkers)		1.40
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03½	.03⅝
28-30 diesel (bunkers)		1.65
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		1.00

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¾
28-30 diesel (lighterage 6¼c per bbl.)		1.85
28-30 diesel (tankcars)		.04¾
*Bunker C (to ocean-going ships in N. Y. harbor)		1.15
Industrial fuel (tankcars)		.04½

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.21½
150-160 D, 0-10		.18½
150-160 D, 15-25		.18
150-160 E, 15-25		.17½
100-110 D, 0-10		.16½
Steam refined:		
631 green (treated)		.14½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 145-50 at 210, 540-550 flash):		
10 pour test	.25½	.26
15 pour test	.24½	.25
20 pour test	.23½	.24
25 pour test	.22½	.23
Steam refined:		
600	.14½	.15
650	.16	.16½
600 Pennsylvania flash	.17	.17½
630 flash	.18	.18½
600 Warren E filtered	.17	.17½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.09
180-3		.10
180-4	.09½	
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-3½		.13
400-3½		.14
100-2½ paraffin oil		.05¾
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08¾	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6		.07
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.07	.08
200-2½-3	.07	.08
300-2½-3	.07	.08
400-3-4	.09	.11
450-3-4	.09	.11
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07	.08
300-5-6	.07	.08
350-5-6	.10½	.11½
400-5-6	.10½	.11½
450-5-6	.10½	.11½
500-5-6	.10½	.11½
600-5-6½	.10½	.11½
700-6½ plus	.10½	.11½
750-6½ plus	.10½	.11½
900-6½ plus	.10½	.11½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.22	.23½
10 pour test	.21	.21½
15 pour test	.20½	.21
25 pour test	.19½	.20
180 vis. at 70° F., 3 color:		
25 pour test	.22	.22½
200 vis. at 70° F., 3 color:		
Zero pour test	.25½	.26
10 pour test	.24½	.25
15 pour test	.24	.24½
25 pour test	.23	.23½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅝	.02¾

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0260	.0265
124-126 (a.m.p.) w.c. scale	.0265	.0270

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0525
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0245	.0250
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¼
60-62 400		.05⅝
61-63 390	.05⅝	.05½
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white	.05	.05¼
41-43 water white	.05½	.05⅝
44 water white	.05⅝	.05⅝

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E		.23½
600 S.R. unfiltered		.21
650 S.R. unfiltered		.22½
600 flash S.R.		.23½
630 flash S.R.		.24½
Bright Stocks:		
8 color		.29
6½ plus color in dilution		.28

NEUTRAL OIL

200-3 color		.29½
150-3 color		.26½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0245	.0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas*	$1.27
Van, Tex.†	1.10
Talco	.73
Altus and Tipton, Okla.‡	1.20

Other fields (see gravity table).

*All companies. †Pure Oil Co. ‡Gulf Oil Corp. Talco by Humble Oil & Refining Co.

West Texas

Winkler County	$ .78
Pecos County*	.91
Pecos shallow†	.81

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Crude prices for Hendrick field, Winkler County, as posted by Stanolind Oil and Gas Co., begins with below 26 gravity at .78, with two-cent differential up to 40 and above at $1.08. Crane, Upton, Howard, Glasscock, Mitchell and Winkler counties take West Texas gravity schedule.

Gulf Coast

(January 28, 1937)

Cleveland, Tex.	$1.27
Hardin, Tex.	1.15
Tomball, Tex.	1.30
Lafitte, La.	1.24
Livingston, Tex.	1.27
Satsuma	1.20
Heyser, light (Nov. 1, 1936)	1.15
Heyser, heavy (Nov. 1, 1936)	.90
Placedo (Nov. 1, 1936)	.90
Welsh, La.	.98
Tepetate (La.) (Jan. 4, 1937)	1.12

Greta, Refugio, O'Connor, McFadden, and Plymouth take same gravity table as Gulf Coast.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light*†	1.30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.57
Elk Basin, Wyo., light*†	1.30
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (Nov. 4, 1936)	.82
Hogback, N. Mex.*	1.33
Pondera, Mont. (Jan. 26, 1936)*	1.05

Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.

Big Muddy, Wyo.†	1.23
Rock Creek, Wyo.†	1.20½
Artesia, N. Mex. (Jan. 4, 1937)‡	.97
Maljamar, N. Mex. (Jan. 9, 1936)‡	.80
Florence, Colo.	.98
Lance Creek, Wyo.	.97
Sunburst, Mont. (June 5, 1936)	1.20
Cat Creek, Mont. (Jan. 4, 1937)‡	1.45
Cut Bank, Mont.	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich.	1.42
West Branch, Mich.	1.26
Arenac, Mich.	1.26
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky	1.40

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp., effective Jan. 29. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky.

Southwest Texas

(January 28, 1937)

Mirando (Nov. 1, 1936)	.90
Pettus	1.37
Salt Flat*	1.09
Salt Flat‡	1.09
Darst Creek*	1.09
Darst Creek†	1.09
Luling	1.00
Lytton Springs	1.12
Duval County	1.00

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.92
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90
Rodessa (La.), below 25 gr.	.93
Choctaw and Darrow, below 21 gr.	.90

Rodessa takes 2-cent differential ending with 40 and above, $1.25. Choctaw and Darrow, posted for first time by Standard Oil Co. of Louisiana, take 3-cent differential up to 25 gravity, then 3-cent differential up to 40 and above, $1.34. Union and Ouachita counties by Phillips Petroleum Co. Urania and Tullos by Placid Oil Co.

Eastern States

TIDE WATER PIPE LINE CO.
(Effective Dec. 28, 1936)

Bradford, Pa.	$2.51
Allegany, N. Y.	2.51

SOUTH PENN OIL CO.
(Effective Dec. 28, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.47
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.33
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.37
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.13
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1.91

PENNZOIL CO.
(Effective Dec. 28, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.37
Group B — Includes Tidioute district.	2.36
Group C — Includes Turkey and Tidioute districts.	2.56
Group D — Includes Bear Creek and Porkey districts.	2.54
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bradlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.51

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Dec. 28, 1936)

Cabin Creek, W. Va.	2.37
Bradford Hollow, W. Va.	2.37
Kelly Creek, W. Va.	2.37

Canada

Ontario (Sept. 9, 1933):*	
Petrolia	$2.10
Oil Springs	2.17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$3.00
Discolored naphtha, 65 gravity and and higher	2.36
Discolored naphtha and crude oil, 40-40.9 gravity	1.66
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2.37

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$1.56

*F.o.b. ship, based on November transactions and exclusive of production and export taxes and bar dues.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Flour Bluff, Turtle Bay Anahuac Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.94	....	$.84
20-20.9	....	....	....	....	....	....	....	....	.96	....	.86
21-21.9	....	....	....	....	....	....	....	....	.98	....	.88
22-22.9	....	....	....	....	....	....	....	....	1.01	....	.91
23-23.9	....	....	....	....	....	....	....	....	1.04	....	.94
24-24.9	....	....	....	....	....	....	....	....	1.07	....	.97
Below 25	$.98	....	....	$.90	....	....	....	....	....	....	....
25-25.9	1.00	....	....	.92	....	....	....	....	1.10	....	1.00
26-26.9	1.02	....	....	.94	....	....	....	....	1.13	....	....
27-27.9	1.04	....	....	.96	....	....	....	....	1.15	....	1.03
28-28.9	1.06	....	....	.98	....	....	....	....	1.17	....	1.07
Below 29	....	$.96	1.03	....	....	....	....	$.84	....	....	....
29-29.9	1.08	.98	1.05	1.00	....	....	....	.86	1.19	....	1.09
30-30.9	1.10	1.00	1.07	1.02	....	....	....	.88	1.21	1.16	1.11
31-31.9	1.12	1.02	1.09	1.04	....	....	....	.90	1.23	1.18	1.13
32-32.9	1.14	1.04	1.11	1.06	....	....	....	.92	1.25	1.20	1.15
33-33.9	1.16	1.06	1.13	1.08	....	....	....	.94	1.27	1.22	1.17
34-34.9	1.18	1.08	1.15	1.10	....	....	....	.96	1.29	1.24	1.19
Below 35	....	....	....	....	$.96	$.91	....	....	....	....	....
35-35.9	1.20	1.10	1.17	1.12	.98	.93	$1.34	.98	1.31	1.26	1.19
36-36.9	1.22	1.18	1.19	1.14	1.00	.95	1.36	1.00	1.33	1.28	1.19
37-37.9	1.24	1.14	1.21	1.16	1.02	.97	1.38	1.02	1.35	1.30	1.19
38-38.9	1.26	1.16	1.23	1.18	1.04	.99	1.40	1.04	1.37	1.32	1.19
39-39.9	1.28	1.18	1.25	1.20	1.06	1.01	1.42	1.06	1.39	1.34	1.19
40 and over	1.30	1.20	1.27	1.22	1.08	1.03	1.44	1.08	1.41	1.36	1.19

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Cuyama*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.74	.71	$.70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.92	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.89
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.16 for 26 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforsheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1936 High	1936 Low	Week ended Jan. 30 Sales	Week ended Jan. 30 High	Week ended Jan. 30 Low	Week ended Jan. 30 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1935 High	1935 Low	1934 High	1934 Low
125½	75	2,200	108¼	105½	107	Amerada Corp.	788,675	N.P.	50cQ	1-30-37	$2.00	80	48½	55⅝	39
35⅞	26⅝	39,300	35⅞	33⅝	34⅞	Atlantic Refining	2,664,904	$25	50cQ¶	12-15-36	1.25	28	20½	35¼	21½
40⅝	21	10,400	38¾	36½	37⅜	Barber Co.	387,149	$10	50c	12-10-36	.50	22½	11¾	23½	12
34½	14⅛	64,200	34⅜	31⅞	34	Barnsdall Oil Co.	2,131,090	$5	25cQ	2-1-37	.80	14¾	5⅞	10	5⅞
23⅜	14	62,500	18⅜	17⅝	18	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	15¾	3⅜	19¼	6⅝
17¼	11½	91,000	16¾	15⅞	16¾	Consolidated Oil Corp.	13,983,287	N.P.	20cQ	2-15-37	.80	12¼	6½	14¼	7¼
45¼	28⅛	18,900	44½	43	44½	Continental Oil of Delaware	4,682,671	$5	25cQ	3-29-37	1.50	35	15⅛	22¾	15¾
17½	6⅜	86,400	17⅛	15½	16¼	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
31⅝	17¼	14,800	31½	30	31	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	1.15	20½	9½	14¾	9⅛
29⅞	16¾	7,200	27⅞	27⅛	27⅞	Mission Corporation	1,399,345	N.P.	....	.....	.45	17¾	10⅜	..	..
75½	19⅞	3,600	65	62	65	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
19½	12⅛	42,300	19¼	18⅛	19	Ohio Oil Co.	6,563,377	N.P.	35cSA	12-15-36	.60	14¼	9¼	15⅞	8½
26⅝	11¾	3,800	25	22¾	24⅜	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	14	6¾	9⅝	5½
4½	1⅜	16,200	4½	3¾	4	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
53½	38⅛	26,400	53½	51¼	53⅜	Phillips Petroleum	4,152,836	N.P.	50cQ	3-1-37	2.50	40	13¾	20¾	13⅜
27¾	11⅞	9,200	25⅞	24⅝	25⅝	Plymouth Oil Co.	1,050,000	$5	40c	12-22-36	.90	13	6½	16¾	7¼
24⅞	16	107,700	23¼	21⅞	23	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6½
47¼	30½	18,400	47¼	43¾	45	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	12-15-36	1.00	36⅞	20¾	33⅜	20¾
29¾	14⅜	14,100	28⅝	26⅞	28⅛	Shell Union Oil	13,070,625	N.P.	25c	12-15-36	.25	16½	5½	11½	6
127½	102	1,600	105¼	104	105	Shell Union Oil 5½% pfd.	400,000	$100	26¼c	12-15-36	28.87½	111	63½	89	57
6⅝	3½	2,600	4⅛	3⅞	4	Simms Petroleum	461,698	$10	50c liq.	1-9-37	2.25 liq.	18¾	4¾	17⅛	7¼
47⅜	19½	7,600	45¾	42	44	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
18	12½	230,000	18	16⅞	18	Socony-Vacuum	31,151,075	$15	25cSpl.	12-15-36	.70	15¾	10⅝	19⅞	12½
47⅝	35	38,000	46⅝	43⅞	46⅝	Standard Oil of California	13,014,754	N.P.	30cQ¶	12-15-36	1.20	41⅛	27¾	42⅞	26½
48½	32¾	15,700	48⅜	46¾	47⅞	Standard Oil (Indiana)	15,215,677	$25	$1.25Q¶	12-15-36	2.40	33⅜	23	32¾	23¼
32	25	100	32	32	32	Standard Oil of Kansas	200,000	$10	$1	12-26-36	1.00	32	20	41	26
71½	51⅛	56,600	71½	69¼	69½	Standard Oil of New Jersey	25,856,081	$25	$1.25SA¶	12-15-36	2.00	52⅜	35¾	50⅛	39¼
91	70	1,400	76	73	76	Sun Oil	1,733,013	N.P.	25cQ	3-15-37	$1 & 6% Stk.	77	60½	74¼	51½
35⅜	28⅞	47,500	55¼	51¾	55¼	Texas Corp.	9,340,069	$25	50cQ	4-1-37	1.50	30¼	16½	29⅜	19⅝
9¼	4⅜	28,800	9⅛	8½	8¾	Texas Gulf Producing Co.	888,102	N.P.	5c	12-15-36	.05	4¾	2½	7	3⅜
16⅝	7½	45,300	16½	15⅛	16	Texas Pacific Coal & Oil	880,703	$10	10c	3-1-37	.25	9¼	3¼	6½	2½
21¾	14¾	19,100	20⅞	20⅛	20⅞	Tide Water Associated	5,642,342	N.P.	15cQ	3-1-37	.70	15⅞	7⅝	14⅜	8
108	100⅝	13,600	106⅜	106⅛	106¼	Tide Water Associated pfd.	626,221	$100	$1.50Q	1-2-37	6.00	104½	84	87	64½
28½	20¾	68,200	27⅛	25½	27	Union Oil of California	4,386,070	$25	25cQ	11-10-36	1.00	24	14¾	20½	11½
31⅝	22⅝	9,100	29¼	26⅝	28⅞	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-1-36	1.20	26½	20⅞	25¾	15⅝
6¼	2¾	19,600	6¼	5¾	5¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ¶Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras. **Plus 6% stock.

New York Curb Exchange

1936 Hgh	1936 Low	Week ended Jan. 30 Sales	Week ended Jan. 30 High	Week ended Jan. 30 Low	Week ended Jan. 30 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1935 High	1935 Low	1934 High	1934 Low
21⅜	13¼	5,600	21	19½	20½	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	14⅛	3¾	3¾	½
50	39¾	50	47½	47½	47½	Buckeye Pipe Line Co.	200,000	$50	$1Q	3-15-37	3.25	42½	30½	38	26
4⅞	1⅞	9,600	2¾	2⅜	2⅜	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1½
124¾	105	250	112½	111½	111½	Chesebrough Mfg. Co.	120,000	$25	$2.50Q†	12-21-36	7.00	157	115	150	116
7⅜	3	60,300	4⅞	4¼	4⅝	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1¼
4⅜	1½	14,900	3⅞	3½	3¾	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
39	19⅞	6,800	37	36	37	Creole Petroleum	6,974,356	$5	25cSA	12-15-36	.50	23¾	10	14⅜	9⅝
18½	9	5,400	7⅜	6½	7¼	Darby Petroleum	351,390	$5	25cSA	1-15-37	.50	8⅞	4	7½	4⅛
7⅞	1⅞	6,000	7⅜	6½	7¼	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
47½	38½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	11-2-36	4.00	38	33¼	37	30
63½	54	19,800	63½	61¼	62⅞	Gulf Oil Corp.	9,076,202	$25	25cQ	4-1-37	1.50, 100% Stk.	74¾	50¼	76¾	49¾
86¾	57	6,500	86¾	83¼	84¾	Humble Oil & Refining	8,923,935	N.P.	50c†	12-26-36	1.50	64	44	49½	33¼
24½	19¾	9,000	21⅞	21⅛	21½	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-36	1.25	22½	15⅜	17⅞	12⅝
9⅞	5½	1,200	9¾	9⅛	9½	Indiana Pipe Line	300,000	$10	20c Spl.	12-17-36	.80	6⅛	3⅝	6⅞	3⅝
39⅝	32⅝	8,800	35⅞	35⅛	35	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-36	2.50	39¾	28	33⅜	19⅝
15⅝	9⅞	14,900	15¼	13¾	13⅞	Louisiana Land & Exp.	3,000,000	N.P.	20cQ†	12-15-36	.50	11⅝	4⅜	5	2⅛
19½	8⅜	4,700	18½	17	18	Lion Oil Refining	270,000	N.P.	25cQ	12-26-36	.75	8⅛	3½	6	3⅜
14¼	9⅞	7,300	14	13⅛	13⅛	Lone Star Gas	5,382,723	N.P.	20c	12-24-36	.60	10⅞	4½	8⅜	4¼
8⅜	5	10,900	6⅝	6⅛	6⅝	Mountain Producers	1,682,182	$10	30cSA	12-21-36	.60	5¾	4¼	5½	4
23	17⅜	3,500	19½	18½	18⅝	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-37	1.00	20	11¾	18⅛	13⅛
15⅜	9¼	1,000	11¼	10⅞	11	National Transit	500,000	$12.50	35cSA	12-15-36	.75	10⅝	6¾	9½	7
6	2⅞	200	6	5⅝	5⅝	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.10	3¼	2	2½	1¾
6⅜	1⅝	2,800	4	3¾	4	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	2½	1	2¾	1
5¼	4¼	100	5¼	5⅛	5¼	New York Transit	100,000	$5	15cSA	10-15-36	.35	4⅞	3	4⅜	3
9¾	4⅞	500	7¾	7½	7½	Northern Pipe Line	120,000	$10	35c	1-2-37	.40	8	5¼	7	4⅝
10¼	3¼	73,600	8⅞	7¾	7⅞	Pantapec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	5,100	12	11¼	11⅞	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	5	1½	..	..
6½	1⅞	6,500	6⅜	5⅜	5¾	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
48	32½	900	48	47	47½	South Penn Oil	1,200,000	$25	90c†	12-29-36	2.60	34½	21⅝	26½	17½
7¾	3¼	100	3⅛	3⅛	3⅛	Southern Pipe Line	100,000	$10	10cSA	9-1-36	.25	5	3⅞	5½	3½
60	40	300	39	38	39	South West Penna. Pipe Lines	35,000	$50	$1Q	10-1-36	13.00	56	44¼	47	41
23¾	17⅛	4,100	20	19⅛	19⅝	Standard Oil of Kentucky	2,604,790	$10	50cQ†	12-15-36	1.35	24	18	18⅜	14⅝
14⅝	11	1,600	12⅞	12¼	12⅞	Standard Oil of Nebraska	188,403	$25	25c	12-19-36	.25	12	7¾	16⅞	8¼
40	21¾	5,100	36¼	33¼	36¼	Standard Oil of Ohio	753,740	$25	$1.50†	12-21-36	2.00	23⅝	11½	28½	12¼
5	2⅝	28,800	4⅞	4½	4¾	Sunray Oil	1,910,748	$1	5c	12-21-36	.10	2⅞	⅞	2	⅟₁₀
9¾	5⅜	10,800	7⅝	7	7½	Texon Oil & Land	336,028	$2	15cQ	12-28-36	.60	6⅞	5	11	4⅜

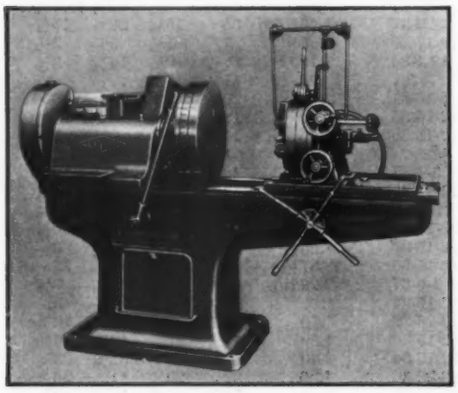
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds. §New stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Improved Threader and Cutter Is Introduced by Landis

The Landis Machine Co., Inc., Waynesboro, Pa., is offering a 2-inch pipe-threading and -cutting machine of improved design. Features which gen-



erally are found only on the most modern machine tools have been incorporated. The new machine is more rigid and weighs slightly more than the one it replaces, although requiring practically the same floor space. The bed has been made heavier and stronger by increasing the thickness and number of the webs and ties. The ways are covered by steel guards attached to the cross-rail and telescoping under the headstock in order to protect the ways at all times. Wipers are provided to clean the ways at the opposite end.

The machine is equipped with an eight-speed built-in gearbox with single pulley drive. For a motor-driven machine the motor is mounted on top of the headstock and connected to the main driveshaft by a silent chain drive. The speeds available are 30, 40, 52, 67, 72, 90, 125 and 163 r.p.m. of the chuck. The speed of the main driveshaft is 425 r.p.m.

A gearbox similar to the one used on the 2-inch Landmaco threading machine is employed. The speed-change gears are made of chrome nickel steel, hardened and burnished, and run in oil. The main spindle gear also runs in oil. All gears are mounted on antifriction bearings of large proportion on heat-treated shafts.

The headstock sets directly on the bed instead of on raising strips as on the old machine. This makes for greater rigidity. The machine has a capacity for threading pipe from one-half inch to 2 inches, inclusive. It has a carriage travel of 14 inches.

Crane Appoints New Managers

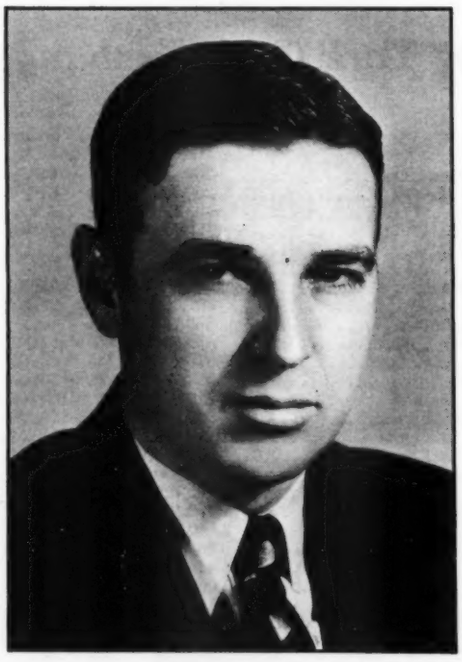
Providing closer relations with the trade and between branches, general office, and factories, Crane Co., Chicago, has established two new sales districts, the east central in charge of C. S. Pitkin, and the southeastern in charge of J. G. Johns. Mr. Pitkin has been manager of the Pittsburgh branch since it was established in 1922, and Mr. Johns, in Birmingham, Ala., since 1920. Other changes in local branch management follow: H. M. Moss, sales manager in Pittsburgh, succeeds Mr. Pitkin as branch manager; F. D. Morrison, assistant manager in Birmingham, becomes manager, succeeding Mr. Johns; F. W. Zander, manager in Buffalo, retires from active management on account of ill health but remains as special representative; G. E. Anderson, manager of Lima, Ohio, branch, is Mr. Zander's successor; E. R. Henning succeeds Mr. Anderson in Lima. Retirement of H. L. Wood, Sioux City, Iowa, on account of ill health, moves T. R. Brady, manager of the Rockford, Ill., branch, to Sioux City as manager, and R. E. Doherty, sales manager of the Portland, Ore., branch, is made manager in Rockford. S. S. Day, manager in Sacramento, Calif., has asked to be relieved of active duty, but will remain as special representative. He is succeeded by E. B. Moor, formerly assistant manager. E. T. Rowe, formerly manager of Syracuse, N. Y., branch, has been appointed manager of Boston branch. A. H. Buck, assistant manager in Pittsburgh branch, succeeds Mr. Rowe.

Patterson-Ballagh Offers New Spraying and Mixing Gun

An improved safety mudgun for spraying rotary mud and properly mixing it has been developed by Patterson-Ballagh Corp., 1900 East Sixty-fifth Street, Los Angeles, Calif. This product has a double swivel and offers safety features which adapt it for the highest gas-pressure areas. Double swivels turn on packing-glands, permitting a positive joint, which can be easily positioned by a single operator. The packing is easily taken up or replaced and is locked after being taken up. A long vertical inside sleeve takes the side thrust. An air-trap eliminates sand-cutting. The area where wear is concentrated is constructed of high-test tubular stock, and the gun-jet or -nozzle is made of Patterson-Ballagh rubber similar to the kind used in the company's casing-protectors.

Crane Packing Co. Establishes New Warehouse in Houston

As part of its expansion program the Crane Packing Co., Chicago, has moved its Houston, Tex., office from 911 Electric Building to 1303 Capitol Street, where it has established a new factory branch and warehouse. A complete stock of John Crane packing is now being carried in Houston. This move to larger quarters has been carried out under the direction of Roy Blackbird, Crane Packing Co. manager in the southwest territory, who will be in charge of the new branch warehouse.



ROY BLACKBIRD

Johns-Manville Develops New Brick for Cracking-Furnace

Johns-Manville has placed on the market a new type of 2,000° insulating brick known as "JM-20." This brick, protected by patents, was developed by

the company's research laboratories for use behind refactory walls in cracking-furnaces and other types of high-temperature industrial equipment. It can also be used for direct exposure at temperatures up to 2,000°F. wherever there is no flame impingement, slag action or mechanical abrasion.

Research on basic raw materials used in refractory insulations led to the development of JM-20 insulating brick, which is produced by combining a high-quality refractory clay with a specially manufactured, fibrous, lightweight, inorganic aggregate.

JM-20 insulating brick is unusually light, weighing less than 1.7 pounds per standard 9-inch equivalent. Its heat capacity is less than one-quarter that of ordinary refractories, and its thermal conductivity is less than one-sixth that of firebrick. Data sheets may be obtained from any Johns-Manville office.

Bulletins, Booklets and Other Literature for the Trade

The Lincoln Shield-arc SAE welder is the subject of a four-page bulletin offered by the Lincoln Electric Co., Cleveland, Ohio.

The Economy Pumping Machinery Co., Chicago, offers a pocket-size "Pump Data" handbook for the solution of pumping problems. The information has been arranged simply and conveniently for the designer, operator or prospective purchasers. The handbook answers the questions: What kind of pump is required. Is a special material needed? What horsepower is needed to drive it? What does the pump cost? What do the motor and control required cost? How do you order or specify the proper equipment?

Appointment of W. R. Smith to the sales staff of its Los Angeles office, 812 Mateo Street, is announced by the Lincoln Electric Co., Cleveland, Ohio.

Frank S. Main and Lionel W. Claypool have become president and vice president, respectively, of the Aurora Pump Co., Aurora, Ill.

Mr. Bushnell Sales Manager of Daniel Orifice Fitting Co.

B. O. Bushnell has been made sales manager of the Daniel Orifice Fitting Co. Mr. Bushnell entered the oil business 15 years ago when he became

B. O. BUSHNELL

associated with the Union Oil Co. Later he joined the Nellan Co., and then was employed by the Midwest Piping & Supply Co., until he took over his new position with the Daniel Orifice Fitting Co. In cooperation with Paul Daniel, Mr. Bushnell plans to extend the company's business on a national scale.

Standard Steel Spring Chooses Col. Rockwell Chairman

Col. Willard F. Rockwell, president of the Pittsburgh Equitable Meter Co., Pittsburgh, Pa., has been elected chairman of the board of directors of the Standard Steel Spring Co., Coraopolis, Pa. He also holds the presidency of the Timken-Detroit Axle Co. and Wisconsin Axle Co.

In addition to being president of the Pittsburgh Equitable Meter Co. and its subsidiary, the Merco Nordstrom Valve Co., Colonel Rockwell holds the presidency and directorships in numerous other companies furnishing equipment to the oil and gas industries. He still finds time to take an active part in military affairs. As an advisory officer of the war department's new program of motorization and mechanization of its ground forces, he saw recent active service, being stationed at Camp Holabird, Baltimore, Md.

Well-Logging Patents Pooled

Schlumberger Well Surveying Corp. and International Geophysicists Co. have pooled their well-logging patents giving customers the full benefit of their separate experiments and studies. All work in open holes will be handled by Schlumberger. The International will limit its activities to perfecting its method of logging cased holes. The fact that the alternating-current patents belonging to International Geophysics Co. are now the property of the Schlumberger Well Surveying Corp. further strengthens the position held by the latter company in the field of bore-hole surveying by electrical methods, as the alternating current detailed techniques mentioned above supplement in certain respects the basic patents owned by Schlumberger on the principle of resistivity and porosity surveys.

Glandless Lubricated Valve Is Adapted for Oil-Field Uses

The Newman-Milliken glandless lubricated plug valves, manufactured by Newman, Hender & Co., Ltd., Woodchester, Glos., England, are particularly effective in christmas-trees, mudlines and other oil industry applications. They are built for pressures up to 3,000 pounds per square inch and are abrasion-resisting. The absence of glands, packing or gaskets is pointed to as constituting an important advantage. Parallel (cylindrical) plug is always in contact with the seat, and there is visual external indication of full lubrication. In an advertisement of this line of valves which appeared in The Oil and Gas Journal of December 31, 1936, a typographical error resulted in the statement that the valves were suited for "mudhens" (instead of mudlines).

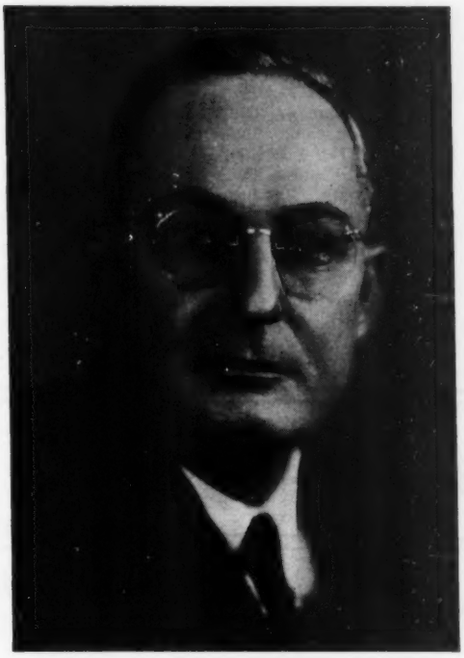
Wheatley Bronze Valve Resists Corrosion and Rough Usage

Bronze valves in sizes which heretofore have been obtainable by oil refiners and manufacturers of natural gasoline on special order only may now be procured from regular stock in sizes from 4 inches up, it is announced by Wheatley Bros. Pump & Valve Manufacturers, Tulsa.

The Wheatley bronze valve is a high-pressure, horizontal-swing check-valve, described as strongly resistant to corrosion and of unusually high tensile strength. It is made to be screwed at one end and flanged at the other, or is double-flanged, in accordance with the requirements of the user. The Wheatley valve is reported to have high salvage value. The owner of this type of valve, according to the manufacturers, can recover a generous portion of its original cost even though he has had it in service for years.

Jones Unites Southern Areas Under Dallas Division Office

The S. M. Jones Co. of Toledo, Ohio, and Tulsa, manufacturer of JoneSuckeRods, have opened a southern division office in the Dallas Bank &



L. J. PUNDT

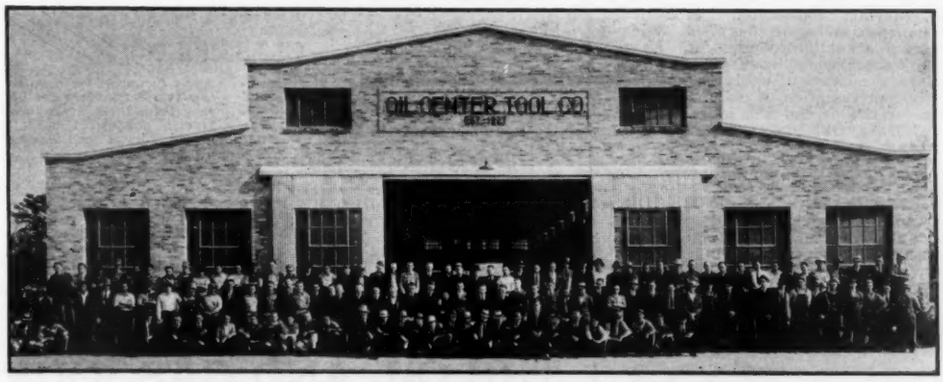
Trust Building, Dallas, Tex., under the direction of L. J. Pundt. This new division will take in Arkansas, Louisiana, New Mexico and the entire state of Texas, excluding the Panhandle. The purpose of this move, according to P. C. Jones, president, is to effect a better coordination of the company's increasing field engineering and sales activities in the southern Mid-Continent oil fields.

The Gulf Coast territory will be in charge of C. E. Buchner, Jr.; West and North Texas in charge of J. R. Hughes, and East Texas in charge of J. G. Litherland. C. W. Turner has been made district representative in charge of the Louisiana-Arkansas territory.

The Lincoln Electric Co., Cleveland, Ohio, has placed Robert Daniels in charge of its Chattanooga, Tenn., office.

George B. Morris, president of Bradford Motor Works, is on an extended business trip through the Mid-Continent and Gulf Coast fields.

LOOKS LIKE GOOD TIMES FOR OIL CENTER TOOL CO.



The number of O.C.T. employes has grown in less than 10 years from a half dozen to 131. The picture was taken when the company assembled the whole staff for a big dinner and to give each member a $10 bill by way of starting the new year off right.

February, 1937

8-10—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

15-16—Wichita, Kans., Kansas Oil Men's Association, annual exposition and convention.

15-19—New York, American Institute of Mining and Metallurgical Engineers.

17-18—Peoria, Ill., Illinois Petroleum Marketers Association, annual convention and marketing exposition, Hotel Pere Marquette.

23-25—Milwaukee, Annual Convention, Wisconsin Petroleum Association.

23-25—Columbus, Ohio, Ohio Petroleum Marketers Association, annual convention and Trade Exposition, Hotel Deshler-Wallick.

23-25—Milwaukee, Wis., Wisconsin Petroleum Association annual convention, Plankinton Hotel.

Memphis, Tenn., Southwest Sales Conference, Natural Gas Department.

24-25—Des Moines, Iowa, Iowa Petroleum Association.

24-26—New York, Association of Highway Officials of North Atlantic States, thirteenth annual convention, Hotel Pennsylvania.

Oil Man's Calendar

25-26—Tulsa, Mid-Continent district, A.P.I. Division of Production, Mayo Hotel.

March

1-5—Chicago, American Society for Testing Materials, regional meeting and committee week, Palmer House.

10-11—Indianapolis, Indiana Independent Petroleum Association Spring Convention and Refiners' and Suppliers' Exhibit, Hotel Severin.

12—Oklahoma City, Okla., Interstate Oil Compact Commission meeting.

15-19—Philadelphia, Pa., National Oil Burner & Air Conditioning exposition and convention, Convention Hall, Commercial Museum.

17-19—Los Angeles, Calif., A.A.P.G. annual meeting.

23—New York, Oil Trades Association of New York.

April

7-9—Birmingham, Ala., American Institute of Mining and Metallurgical Engineers, Open Hearth Conference.

8-10—Shreveport, La., Petroleum Industry Electrical Assn.

13—Los Angeles, Calif., American Petroleum Institute, Division of Production, Pacific Coast district, Biltmore Hotel.

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

26-28—Hot Springs, Ark., Western Petroleum Refiners Association, annual meeting, Arlington Hotel.

28-30—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

May

6-7—Columbus, Ohio, American Petroleum Institute, Division of Production, Eastern district, Deshler-Wallick Hotel.

10—Kansas City, Mo., Spring meeting Natural Gas Department, American Gas Association.

19-21—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

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Situations Wanted

Successful Salesman, 36, now employed by large Mfg. Co. desires change to oil well supply, allied line or leasing. Address Box H-622, The Oil and Gas Journal, Tulsa, Oklahoma.

Inventor experienced in patent office procedure, can make searches, do research work, wants position with small or medium size manufacturer of oil field specialties. Address Box H-631, The Oil and Gas Journal, Tulsa, Oklahoma.

Sales Engineer, Mechanical Engineering graduate, experienced installation, maintenance, and operation of heavy machinery and auxiliary equipment. Large acquaintance, good sales record, good personality, conscientious worker, desires exclusive representation of major manufacturer. Write or call Engineers Club of Tulsa, Tulsa, Oklahoma.

Help Wanted

REFINERY PROCESS ENGINEER. Major oil company has an opening in its Process Design Department for chemical or mechanical engineer with at least 5 to 6 years' experience in the design and operation of distillation, cracking and lubricating oil processing units. Work will involve design, operation and economic studies. Applicant should be well versed in thermodynamics, physics and mathematics and possess engineering ingenuity. Salary after qualifications. Give details of education, experience, recommendations, salary expected and photo. Reply treated confidentially. Address Box H-620, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

WANTED—Civil Engineer for surveying in Colombia, South America. Must be capable of calculating longitude and latitude by astronomical observation and also speak Spanish fluently. Give detailed information as to age, education, experience and salary expected. Good opportunity. Address Box H-632, The Oil and Gas Journal, Tulsa, Oklahoma.

Refinery Supts., Engineers, Operators, Chemists, Draftsmen, Designers, wanted for prospective positions.
Glenn B. Wilson Employment Specialists
307 Conoco Bldg. Denver, Colo.

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PRODUCING and prospective oil and gas royalties offered to dealers. F. A. OGREN, Box 352, Hoke Building, Hutchinson, Kansas.

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WILL Sell Acres or Royalties within Major lease boundaries, Texas Gulf Coast. Other lands with potential oil values. F. J. Winter, 379 Clarkson, Denver, Colorado.

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Royalties—Production

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Sell in the most active area in the United States — The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
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ROYALTIES PURCHASING TRUST LTD., Moorgate Hall, Moorgate, London, E. C. 2., England, are buyers of producing oil royalties.

HUGH McCLELLAN
Union Natl. Bank Bldg., Wichita, Kan.
Attractive Kansas Royalties for Dealers

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We are in the market for good producing royalties. Submit complete information and map of what you have to offer in first letter.
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ROYALTY, Oil Property and Land Investors. If you have money that is not working, write me for my 1937 plans. Ask for no list.
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NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

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3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment For Sale—Equipment For Sale—Equipment For Sale—Equipment

SPECIAL PIPE OFFERING

40,000 ft.—6" std. line pipe with Victaulic couplings
1,600 ft.—15½" 70 lb. plain end casing
Large quantity gasoline and refinery plant equipment; all sizes pipe, valves & fittings.

BROWN-STRAUSS CORPORATION
Main Office—1446 Guinotte—Kansas City, Mo.
Branches:
Arkansas City, Kansas Sapulpa, Oklahoma Pyote, Texas

Steel Storage Tanks

50—Practically new 80,000-bbl. steel roof tanks, latest type.
125—500,000-bbl. storage tanks at great saving. Prices quoted on request for tanks standing, cut down, or reerected on your grade. Have all other sizes available. All tanks strictly guaranteed.

All kinds refinery equipment, valves, fittings, machinery, pumps and pump repair parts.
Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION
64 North Second St. Kansas City, Kansas

Sale of Pipe Line Equipment

Latest type pipe line equipment, sufficient for two complete spreads. Purchased new and used less than three months. Consisting of

2—Buckeye Trenchers, Model 48 with lighting plants and spare parts.

2—Buckeye Backfillers, Model D with spare parts.

5—Diesel Cats R.D. 6 & 7's with Cardwell Booms & lights.

Also—Motor Trucks—Pumps—Wagons—Paint Equipment—Air Tools—Welding Supplies—Tripods—Winches—Hand Tools, Etc., Etc.

Bulk Bids Favored. All equipment under cover. Write for full particulars and location.

Union Equipment Co., Inc.
Phone—Redford 2200. P. O. Box 67 Redford Sta.
28424 Grand River Ave. Detroit, Mich.

STEEL DERRICKS for WILDCATS

We furnish steel derricks, substructures and engine foundations on well located and financed blocks and take acreage for rental.

Any kind anywhere.
New and used derricks for sale.

J. A. BARBRE & SONS
Gulf States Bldg., Dallas, Tex.

For Sale: One Longyear Rota-core, coredrilling machine, capacity 3,000 ft., 3" hole. Will sell reasonable. Address Box H-641, The Oil and Gas Journal, Tulsa, Oklahoma.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Outer Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

LIGHT Rotary Draw Works, Table & Tools. Would make fine Portable Rotary Drilling outfit for 1500 foot drilling and cleaning out. Bargain. G. J. STUMPFF, Box 1123, Texarkana, Texas.

SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
J. S. Daniel, Beacon Bldg., Tulsa

WELDERS A.C. and D.C. electric motor and engine driven. Reconditioned. Service Co., 3732 Cedar Ave., Cleveland, Ohio.

For Sale—Reconditioned No. 30 Star Drilling Machine with motor and spudding attachment. Herman Goff, Route 4, Arkansas City, Kans.

BRAND NEW POWER PUMP BARGAIN
Latest type Gaso 5x10" Duplex enclosed 600 pounds working pressure. Never used. Bargain price. Address Box H-640, The Oil and Gas Journal, Tulsa, Okla.

Equipment Wanted

CASING 5 3/16" or 6⅝" and 2" tubing and rods wanted. 8,000 feet. Cash. Must be bargain.
J. P. WILLIAMS
611 Central Nat'l. Bank, San Angelo, Tex.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Ranches and Farm Lands

TEN ACRES
FLORIDA'S FAMOUS BOK TOWER SECTION facing paved road and bearing Orange-Grapefruit groves, between 2 pretty lakes. $10 mo. buys. Gillam, 658 Moreland NE, Atlanta, Georgia.

40 acres of land near St. Louis game park. Taney County, Mo. $250. John Schoenborn, 5941 North Washtenaw Ave., Chicago, Ill.

FOR SALE—50 Section Ranch. About 32,000 acres located in Culberson and Hudspeth counties, 25 mi. north of Seirra Blanca, Tex., on T. & P. RR. A good cattle or sheep country. This ranch fenced and cross fenced for cattle. 13 tanks, one well and windmill. Two sets of improvements. A good hunting country. Deer and mountain sheep. Only a few ranches like this left in Texas. At this low price. $3.00 per acre, bonus 97½c per acre due the state makes $3.97½ land, $46,000 cash, $50,000 balance, on easy terms at 6% and assume state debt. Oil and mineral rights go with land. Write, call or see G. C. POTTS, 909 Lancaster St., Big Spring, Texas.

85,000 acre well improved ranch property, this is the best going ranch of its size in the west, located near Albuquerque, New Mexico. Also 28 section ranch in Culbertson County, Texas. For data write or wire J. C. Whisenant, Hope, New Mexico.

148 acre farm, 20 miles NW Tulsa, $5,000 including oil right, or oil right $3,000, one-half oil right $1,500. Helm, Realtor, Joplin, Missouri.

For Sale—Maps

STATE OF TEXAS
1937 REVISED EDITION MAP
New and Enlarged to include parts of New Mexico, Oklahoma, Arkansas and Louisiana. Shows oil and gas fields, etc. Price $1.00. Write for folder on county ownership and oilfield maps.
ZINGERY OIL MAP COMPANY
Fair Building Fort Worth, Tex.

TEXAS MAPS. State-County-Combinations-Geological. Send for list. Oil City Map Co., 1003½ Throckmorton, Fort Worth, Texas.

SOUTHWESTERN UNITED STATES
Includes all of following states: Texas, Louisiana, Mississippi, Arkansas, Oklahoma, Kansas, also Eastern New Mexico. Shows all oilfields by name and location. Alphabetically arranged list on margin of all discoveries these States during 1936. Lithographed. Size 3 x 4 ft. $1. Same map with pipe lines to date, white print with blue lines $7.50. Send for illustrated catalog describing over 400 ownership and field maps in Texas and Louisiana.
ZINGERY MAP COMPANY
Houston, Texas

Petroleum Eng. Laboratories

GEOLOGIC STANDARDS COMPANY
1600 East 5th Place, Tulsa, Oklahoma.
Porosity-Permeability-Saturation Tests.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. Amster Leonard, Fox Theater Building, Detroit, Michigan.

Leases—Production

LOCATING OIL ON A PER CENT New fields located for a third of the oil. All expenses must be paid in advance. Loyal E. Scott, Consultant, Aurora, Mo.

FOR SALE—Oil property in Lima, Ohio field. Fourteen producing wells. L. R. Neville, Box 107, Roundhead, Ohio.

WILL LEASE for oil 5 tracts, 4180 acres, Bent County, E. Colo. H. B. BUDDENBORG, Osawatomie, Kansas.

LANDS, Leases, Royalties, anywhere, bought, sold. Lands, $2 acre up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

NEW MEXICO, Chaves County, 1000 acre solid lease block. 9 years, 5c rentals, price 30c per acre. Roy G. Barton, Box 191, Clovis, New Mexico.

LEASES and drilling locations on geological structure near production in Illinois. Lock Box 12, Bethalto, Illinois.

FOR SALE
Schleicher County Drilling Block: 320 acres on best part recognized structure. Shows in nearby wells plainly indicate heavy production, high gravity oil will be found on this land at moderate depth; three pay zones; close to trunk pipe line. Address Box 1082, Austin, Texas.

For lease 120,000 acres of untested land in center of worlds largest timbered plateau—All in Tennessee coal basin—Both oil & gas being produced here now. See or address G. E. Harrison, Crossville, Tennessee.

Would sell some productive oil acreage in the Lea County, New Mexico field. J. C. Whisenant, Hope, New Mexico.

Leases, royalties in Bryson and other areas, also drilling propositions, write your wants to W. T. Brown, Denton, Texas.

Shallow area (1,000 acre) lease block in Comanche County on production trend, open for drilling contract (rotary), or will sell over-riding interest for finances to drill, 1,000 foot depth. Address Geologist, Box 137, Lawton, Okla.

Look! Will sell quarter interest in well and 200 acres in Claremore shallow district so can finish up hole. Offset made 20 barrels daily at 440 feet. Write 401 North Seminole Street, Claremore, Okla.

Mailing Lists

MAILING LISTS
Of royalty investors, by deed, from pipe line company records, in every State, including Okla., Kan., Tex., La. and Ark. Also, lists of active retail royalty brokers and investing royalty companies. Lists made special. Please specify.
OIL INDUSTRY MAILING LIST CO.
909 Tulsa Loan Bldg., Tulsa, Okla.

Incorporations

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms, Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

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NUTS FOR HIGH TEMPERATURES

DEPARTMENT OF GEOGRAPHY
THE UNIVERSITY OF NEBRASKA

Here's what A. S. T. M. *calls for*

A. S. T. M. SPECIFICATION A-194-36T, Class 2 and 2H, calls for two tests of physical properties. Class 2 nuts must have a minimum Brinell hardness of 160 as finished, also after being subjected to 1000 deg. F. for 24 hours and allowed to cool slowly. Class 2H nuts must show Brinell hardness readings of at least 250 as finished and 180 after heating.

Here's what BETHLEHEM *furnishes*

TO MEET THESE RIGOROUS A. S. T. M. SPECIFICATIONS Bethlehem makes two different types of nuts. The Bethlehem Treated Nut (tapped to Class 2 thread fit) meets, in every respect, the A.S.T.M. requirements for a Class 2 nut. The Bethlehem Oil-Quenched Nut (tapped to Class 2 thread fit) meets requirements for a Class 2H nut.

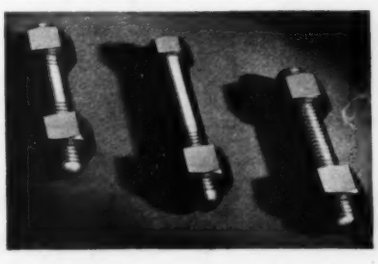
TYPICAL HIGH-TEMPERATURE STRIPPING VALUES

BETHLEHEM TREATED NUT		TEMPERATURE, DEG. F.	BETHLEHEM OIL-QUENCHED NUT	
Stress in lbs. per sq. in., based on mean area	Brinell hardness after cooling	Nut held at this temperature 1 hour before stripping	Stress in lbs. per sq. in., based on mean area	Brinell hardness after cooling
196,000	188	700	230,000	282
175,000	188	800	190,000	260
142,000	188	900	150,000	247
105,000	173	1000	121,000	233

★

Bethlehem Treated and Bethlehem Oil-Quenched Nuts are hot forged of medium-carbon open-hearth steel. They show remarkably small distortion, even when held under stress at high temperatures. At room temperatures, either of these nuts will break studs of any material—alloy or carbon steel—before the nuts themselves will fail. Their approximate stripping values at high temperatures are shown in the table. Prompt shipments of any quantity, any size, of either of these nuts, semi-finished and tapped to Class 2 thread fit, can be made. Where Class 3 fit is necessary, or where higher Brinell than that called for by specifications is desired, consult our nearest office.

SUPERTEMP Studs and Bolts—Supertemp is a chrome-tungsten alloy steel developed and patented by Bethlehem. Drawn at approximately 1200 deg. F., it develops minimum room-temperature physicals qualifying for A. S. T. M. Class C high-temperature bolting material. It will show an ultimate tensile strength in the neighborhood of 90,000 lbs. per sq. in. at 900 deg. F.; about 78,000 lbs. at 1000 deg. F. It can be drawn at approximately 1100 deg. F. and qualify for Class D material. At lower drawing temperatures, ultimate strengths of 160,000 lbs. per sq. in. and over can be obtained.



OTHER HIGH-TEMPERATURE BOLTING MATERIALS— Bethlehem is also ready to give fast delivery on bolts, studs, or pressure screws of S.A.E. 4140 heat-treated to A.S.T.M. Spec. A-193-36T Class C, and of Mayari "A" (S.A.E. 3140) to the same specifications. These materials are recommended for temperatures in the intermediate range.

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BETHLEHEM STEEL COMPANY

BETHLEHEM STEEL

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TO STEP UP YOUR WINTER BUSINESS!

The most successful radio show in the oil industry

The only dealer merchandising plan of its kind

A complete line of custom-built petroleum products

The Cities Service Sales Plan shows you how to profit in prosperous 1937—and proves it!

You don't have to wonder what your prospects are for the New Year. Let Cities Service show you a new, proved way to make more money—beginning right now—even during the "slow" winter season. Thousands of dealers throughout the country have put the Cities Service Sales Plan to work for them. You can, too. Decide to do it today!

It's a complete, distinctive selling plan—the only one of its kind offered in the industry—and it's designed especially for your merchandising problems.

Get into 1937 with your business geared to a bigger share of the profits. You'll find all the details in the Cities Service PROFIT ImPROVER. Ask to see it. Just write, wire or phone today—to the nearest Cities Service Marketing Company. Get the expert help that's waiting to go to work for you.

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CITIES SERVICE OILS AND GASOLENES

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription prices: Domestic, $6.00 a year; foreign, $7.50 a year. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Oklahoma, under the Act of March 3, 1879.

FOR SURE PROTECTION USE—

DUTCH BOY RED-LEAD

LIKE some sinister organization of the underworld, Rust preys on business. Each year's *take* mounts up into millions of dollars.

Make it impossible for Rust to "muscle in". Paint metal surfaces with Dutch Boy Red-Lead. Here is a paint that provides a solid, tough, tenacious coating—one that not only keeps out moisture but also resists the other common causes of corrosion, such as gases, smoke and salt water.

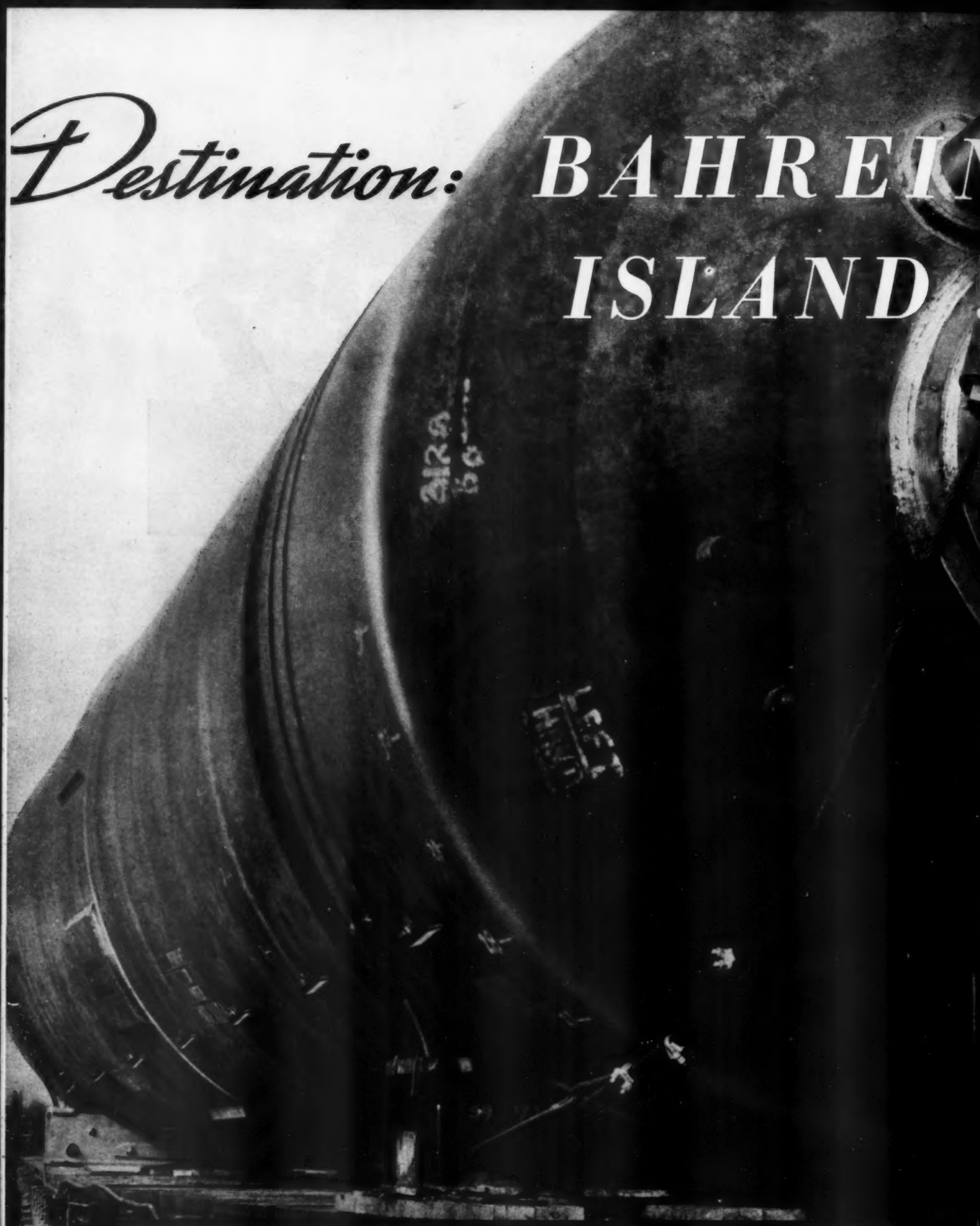
Dutch Boy Red-Lead comes in both paste and liquid form, the latter including a quick-drying type for use when allowable drying time is short. The pigment in every case is pure red-lead that contains more than 97% Pb_3O_4, thus assuring easier application, higher spreading rate and a uniform film of greater density.

For complete information on protecting iron and steel against corrosion, send for our free booklet, "Structural Metal Painting". It covers such subjects as the conditions affecting the life of paint on metal, proper paint formulation, testing and judging the value of paint, estimating areas and costs.

NATIONAL LEAD COMPANY
111 Broadway, New York; 116 Oak St., Buffalo; 900 W. 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Pa., 316 4th Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Phila.

LITHARGE of correct physical character and extreme chemical purity is a necessity in oil refining. Such litharge is made by us. You can always rely on its unvarying uniformity. Our nearest warehouse can give you quick shipment.

Destination: BAHREIN ISLAND



MILWAUKEE, WISCONSIN • *BRANCH OFFICES:* NEW YORK, CLEVELAND, CHICAGO, TULSA, HOUSTON, LOS ANGELES

MAKING STEEL WORK FOR YOU AS IT NEVER DID BEFORE IN
SMITH PRESSURE VESSELS—SMITH HIGH-YIELD CASING—SMITH LINE PI

as the Wave of Acceptance Rolls On!

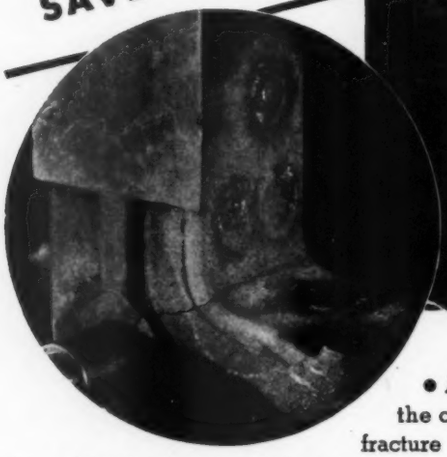
The wave of acceptance of Smith Pressure Vessels rolls on around the world. Bahrein Island, in the Persian Gulf, is the ultimate destination of the vessels shown above—one of a battery of fourteen. Wherever refining is done, Smith Vessels lead.

SMITH PRESSURE VESSELS

Lined or Unlined—Any Size or Shape Within Transportation Limits

PAGE Hi-Tensile "C"

WELDS PRESS FRACTURE AND SAVES COST OF NEW CASTING



BUY ACCO QUALITY

• Accidents will happen. In the case of this press casting fracture a costly replacement was averted with a clever welding job using Page Hi-Tensile "C" Shielded Arc Welding Electrode.

The high tensile strength and greater ductility of Hi-Tensile "C" produced a weld that actually increased the strength of the casting. The repaired press now will withstand greater pressure and shock.

In making sound welds there is one requirement that cannot be over-emphasized . . . good wires particularly suited to each job must be used. Page Welding Wires are good . . . each is shop tested. Among the many types of Page wires, there is one to meet each particular condition.

Page engineers will cooperate with you to choose the wires best suited to your needs. Your Page distributor can give prompt service from ample stock.

PAGE STEEL & WIRE DIVISION
AMERICAN CHAIN & CABLE COMPANY, Inc.
MONESSEN, PENNSYLVANIA

In Business for Your Safety

A FEW OF THE 137 AMERICAN CHAIN & CABLE INDUSTRIAL PRODUCTS

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(DOMINION CHAIN COMPANY, Ltd., in Canada)
Weed Tire Chains • Welded and Weldless Chain • Malleable Castings • Railroad Specialties

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ANDREW C. CAMPBELL DIVISION
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FORD CHAIN BLOCK DIVISION
Chain Hoists • Trolleys

HAZARD WIRE ROPE DIVISION
Green Strand Wire Rope • "Korodless" Wire Rope • Preformed Spring-Lay Wire Rope • Guard Rail Cable

HIGHLAND IRON & STEEL DIVISION
Wrought Iron Bars and Shapes

MANLEY MANUFACTURING DIVISION
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OWEN SILENT SPRING COMPANY, Inc.
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READING-PRATT & CADY DIVISION
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ACCO

PAGE *Welding* WIRE

"PARADE OF THE VALVES"

Big brutes of valves, little baby valves. Needle valves, globe valves, gate valves, pop valves. Brass, steel, iron and alloy valves. Valves for gas, air, oil, water, steam and chemicals. Any kind of valve—the biggest valve parade on earth!

Crane makes them—from a 40-cent "dwarf" to a 40-ton monster, Crane has the valve you want. You'll find them in the Crane No. 52 Catalog.

Maybe your valve problem seems special. Maybe you are wrestling with higher temperatures, greater pressures. Save time and cost by making use of Crane's 82 years of experience in valve making. You'll find the solution for most valve and piping problems in your Crane No. 52 and other Catalogs. They contain the details regarding over 38,000 items, tested in the laboratory and proved on the job. Use them whenever you need valves, fittings, pipe or accessories. CranEquip for satisfaction.

CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO, ILLINOIS

Branches and Sales Offices in One Hundred and Sixty Cities

VALVES, FITTINGS, FABRICATED PIPE, PUMPS, HEATING AND PLUMBING MATERIAL

plied in the next few days.

"HARD BOILED" VALVES

TULSA, OKLA., Jan. 16—The oil industry is no place for weak sisters. Equipment has to be "hard boiled" to last in the oil country. There isn't another industry in the country in which valves, fittings and piping have to take it, and like it, as they do when handling oil from the bottom of the hole to the tank on the rear of a car or to the bearings of a battleship.

That's why Crane puts so much extra strength into all its oil field products. Crane designers, Crane engineers, Crane metallurgists, all read A.P.I. and A.S.M.E. specifications in just one way. They look to see what the maximum requirements are—and then they better them in finished Crane products.

More than that, Crane is always anticipating oil country, pipe line and refinery needs. Valves and fittings are constantly being designed to handle temperatures and pressures not used at present. They are tortured in every conceivable way to test them in the laboratory—then they are spotted around the country in tough services and given "the works." That's how accepted Crane designs originate. Crane is ready for oil country demands in proven territories, in wildcats that need taming and in all refining services.

Pack Your Problems Off to Crane

If there is some "hot spot" making trouble in your lines or on your equipment, give us a chance to look it over. There may be a piece of regular CranEquipment that will do the job. Or it may require special treatment. Anyway, ask Crane about it. We can give you the answer if anyone can.

ON THE SEA
IN THE AIR
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LUMBERING
FACTORIES
ON THE ROAD
TRAINS
HOME
On sea and land...in home and factory...for every lubrication and fuel problem, Shell has developed an answer.
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GASOLINE
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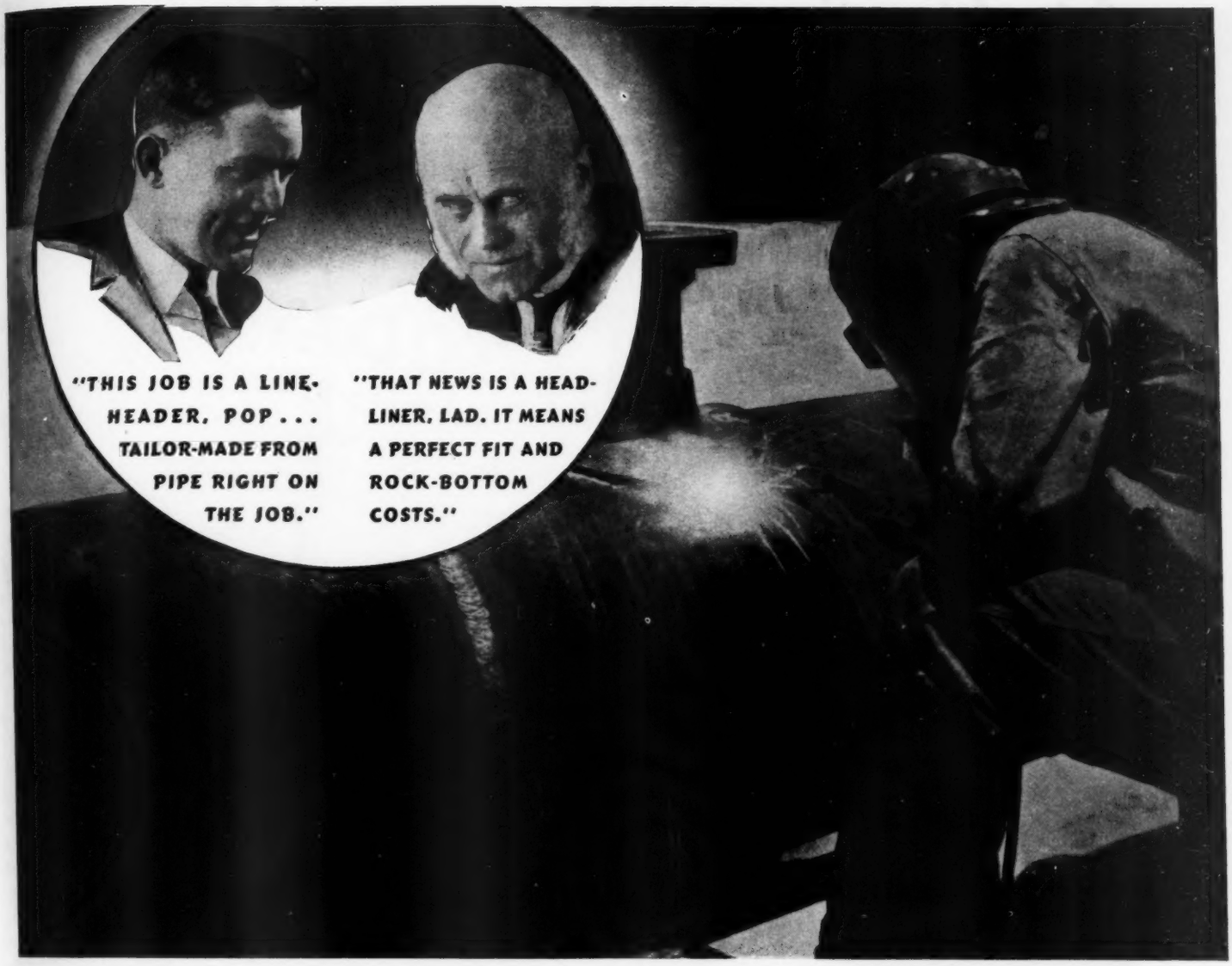
SHELL


"THIS JOB IS A LINE-HEADER, POP . . . TAILOR-MADE FROM PIPE RIGHT ON THE JOB."
"THAT NEWS IS A HEAD-LINER, LAD. IT MEANS A PERFECT FIT AND ROCK-BOTTOM COSTS."

● "Right, Pop. And these fellows are cashing-in still further by doing their tailoring with that head-liner of all welding processes—the Lincoln *'Shield-Arc.'* By producing joints that are even stronger and denser than mild steel itself, *'Shield-Arc'* welders and 'Fleetweld' electrodes give satisfaction to the Nth degree . . . . When you're looking for ways to cut costs and make permanent construction with steel—in the field or in the refinery—here's a hunch. Call in the Lincoln man. He knows every fork and turn when it comes to welding. He'll take you to pots of gold and fountains of youth you never dreamed of!" Address THE LINCOLN ELECTRIC COMPANY, Department N-341, Cleveland, Ohio. Largest Manufacturers of Arc Welding Equipment in the World.

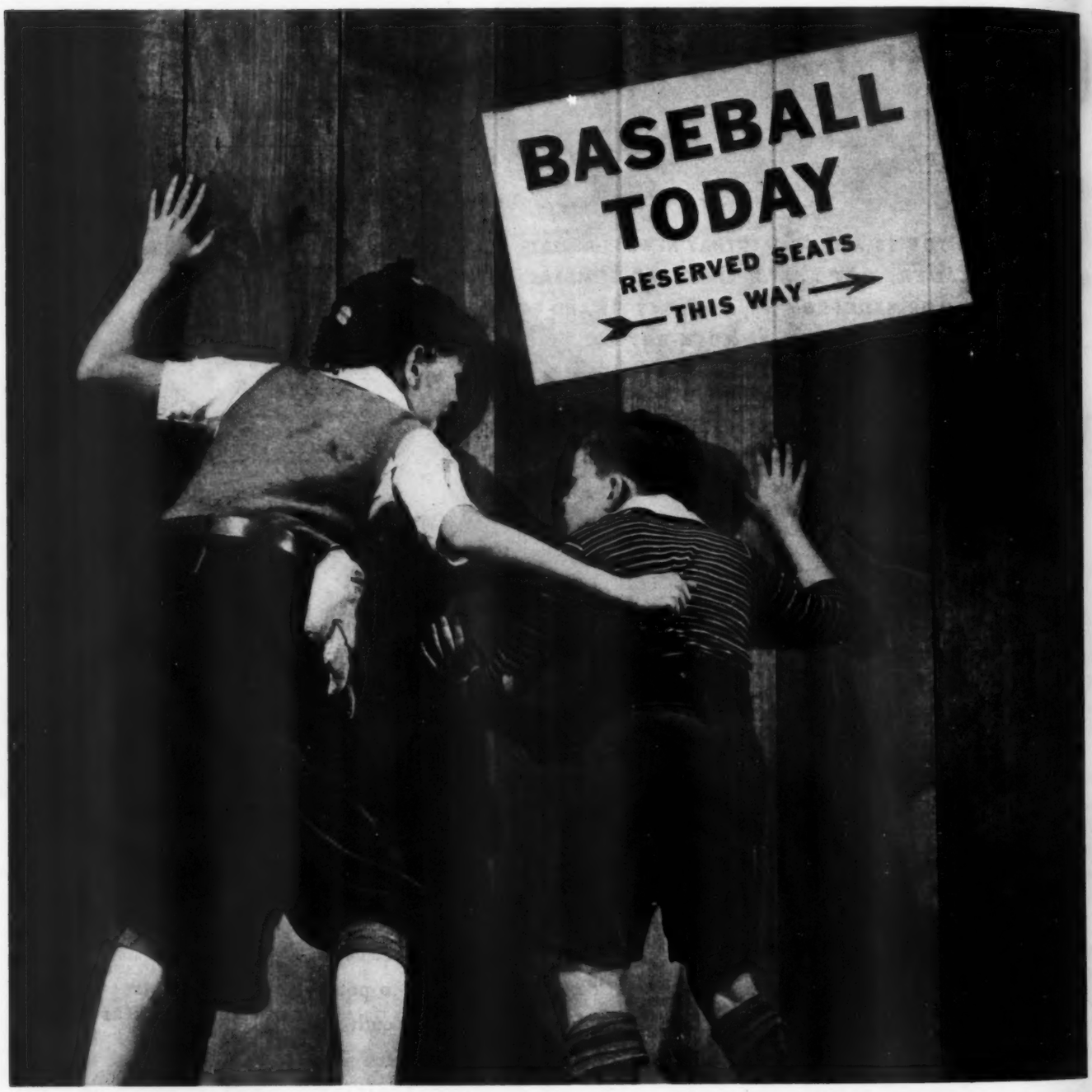
Now, by means of Lincoln's exclusive Dual Continuous Control on the new "Shield-Arc SAE," welders can tune in the right TYPE and SIZE of arc for every job. Details are given in this book.

Write for a free copy of this book today!

LINCOLN SHIELD-ARC WELDING

PRODUCES A STRONGER, MORE LASTING CONSTRUCTION FASTER, AT LESS COST

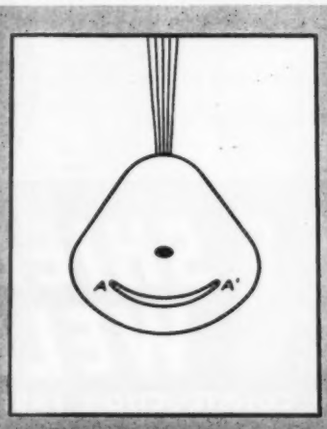
O.K. for a baseball fan–



PRESENT LENS TUBE

Look out for "knot-hole" view

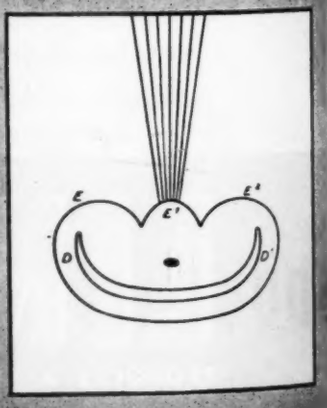
This is a cross section (looking down) of the usual Lens Tube used today. You can read this tube only by looking along one of the lines shown. The angle of vision is therefore narrow. Note the small background (A-A') which is able to catch light only from directly in front. Bore reflection is present.



NEW "BINOC" TUBE

Use this for a "grandstand" view

Cross section of the new Taylor "BINOC" Tubing. Note greatly increased angle of vision. Also wider background (D-D) catching light rays from three lenses (E-E'-E') and concentrating them. With this construction the reflected light is much stronger, the mercury column reading is much clearer. Bore reflection is eliminated.



but...TO READ YOUR THERMOMETERS GET A RESERVED SEAT VIEW

With the new and truly remarkable "BINOC" Tubing, Taylor Engineers give you industrial thermometers with more than double the angle of vision and two to five times greater visibility.

MANY young baseball fans may think looking through knot-holes is better than not seeing a game at all. But try to find one of them who would turn down a grandstand view!

The same difficulties encountered in peering and squinting through a knot-hole have been responsible to a large degree for making mercury-in-glass industrial thermometers hard to read. But now you and your employees can enjoy a reserved seat view and make easier, quicker and more accurate thermometer readings.

Taylor "BINOC" Tubing makes this possible. Developed by Taylor Engineers, this tubing is acknowledged to be one of the greatest advances ever made in glass thermometry. And the new Taylor Industrial Thermometers with "BINOC" Tubing are the easiest-to-read thermometers you can find today. By producing an optically correct tubing, Taylor has given this type of instrument one essential quality that has been lacking.

Check These Advantages

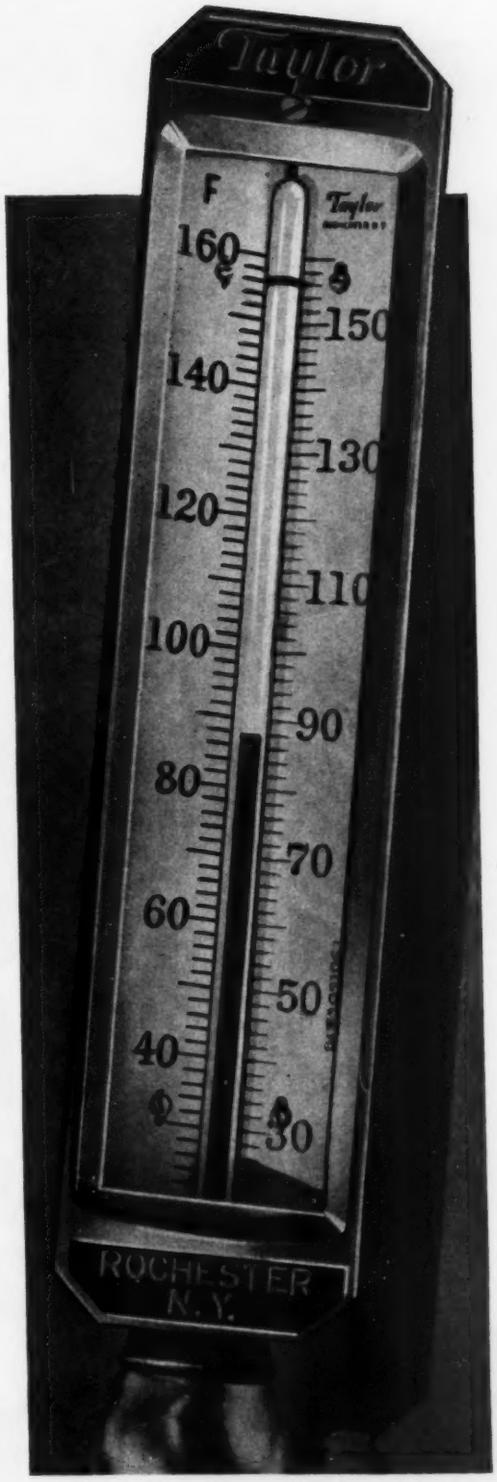
"BINOC" Tubing more than doubles the angle of vision within which you can see and read the mercury column. Yet there is no loss in magnification. No narrow-angle, one-eye knot-hole vision here.

"BINOC" Tubing gives Binocular Vision. It ends the need for reading with one eye squinting. It assures accurate reading at longer distances—WITH BOTH EYES OPEN. A triple lens construction concentrates more light on the mercury column and background, and makes the column stand out boldly and sharply.

"BINOC" Tubing enables you to forget that bore reflection ever existed. The tubing construction with a much more extensive background diverts or excludes the light that has deceived trained employees in reading other thermometers.

You can prove these points yourself in your own office or plant. Ask a Taylor Representative to help you make the test. See how "BINOC" Tubing in Taylor Industrial Thermometers can increase the ease and efficiency of readings and act as another safeguard of product uniformity and quality.

For immediate demonstration of "BINOC" Tubing you can write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.



Called "the greatest advance in glass thermometry"—Taylor "BINOC" Tubing in New Taylor Industrial Thermometer.

Taylor
INDUSTRIAL THERMOMETERS
with "BINOC" *tubing*

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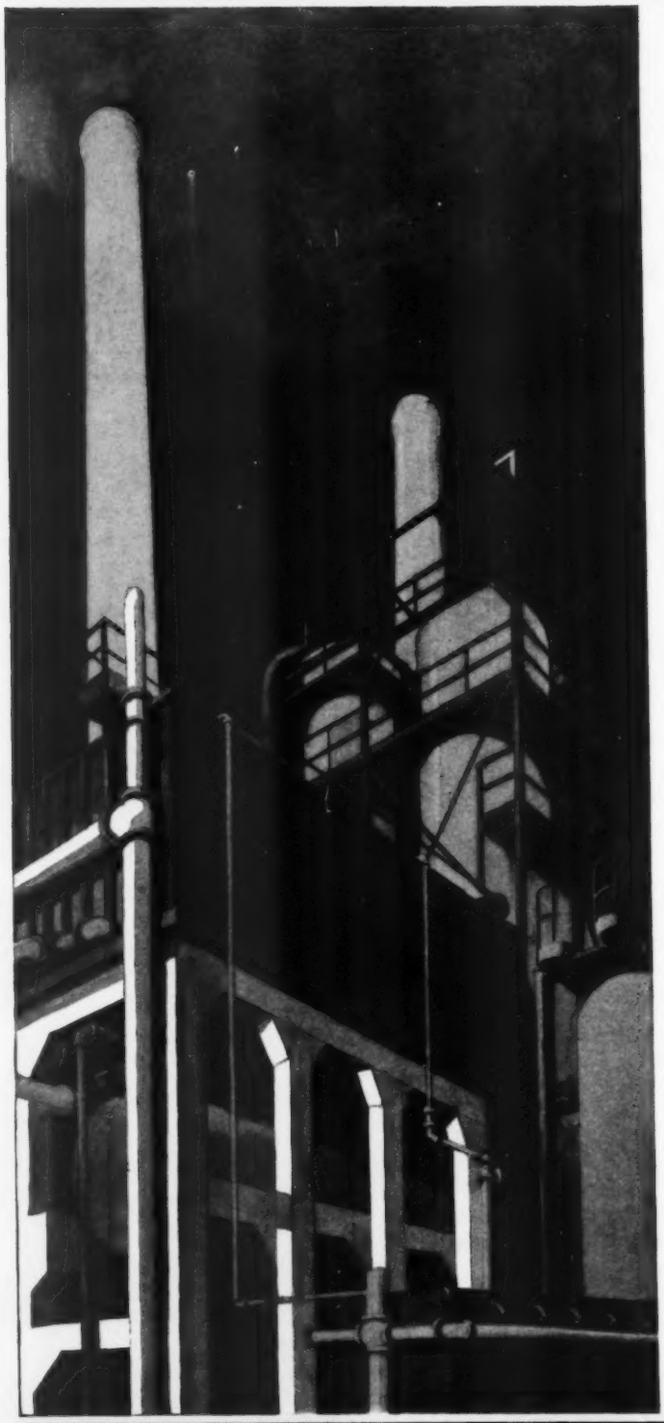
THERMAL



THERMAL POLYMERIZATION HAS A WIDE FIELD OF APPLICATION

Where opportunity exists for the utilization of by-product gases from cracking equipment or natural gas plants, Thermal Polymerization units may readily be adapted to individual plant equipment to produce a superior blending gasoline.

Such units offer no difficult installation or operating problems. They possess a wide range of usefulness due to the ability to convert both saturated and unsaturated hydrocarbons into motor fuel.

Refiners and natural gasoline plant operators are invited to investigate the possibilities of Thermal Polymerization through this organization or its agent, The M. W. Kellogg Company.

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THE POLYMERIZATION PROCESS CORPORATION
15 EXCHANGE PLACE
JERSEY CITY, N. J.

POLYMERIZATION

STANOLIND, OHIO OIL, SIGN LONG LEASES IN TULSA

Largest Rental Lease of Tulsa History Signed As Stanolind Takes Eight Floors of Philcade

Both Philcade, Philtower Buildings Will Be Air Conditioned

Tulsa's largest real estate rental transaction of city history was executed Saturday with the renewal of a lease to the Stanolind Oil and Gas company and its allied organizations covering the space the companies now occupy in the Philcade building.

The transaction was announced by Ray N. Lattner, manager of Waite Phillips' real estate properties; the renewal lease is the result of negotiations carried on during the last few weeks between Frank O. Prior, Stanolind Oil and Gas company president, and Waite Phillips, owner

Taubman Sale to Bethlehem Is Negotiated

Will Mark First Entry of Eastern Steel Firm Into Oil Well Supply Field

Herman P. Taubman, president of the Taubman Supply Co., is in New York today concluding the arrangements for sale of his company to the Bethlehem Steel Corp., second largest steel company in the United States. The Tribune was reliably informed today.

Ohio Oil, Vandever's Close Space Leases

Important Transactions Announced for Thompson Building; Store Plans Expansion

By Bob Foresman

Culminating a week of important downtown lease transactions, J. Noble Thompson, manager of the Thompson building, Fifth street and Boston avenue, announced Saturday that the Ohio Oil Co. has made a long term lease renewal for the four floors of the building it now occupies, that Vandever's Dry Goods Co. store would occupy the first and second floors of the

Both Philcade and Philtower Will Be Cooled; Biggest Oil Firm Office Fixed in Tulsa

The Philcade and Philtower buildings will be air-conditioned at a cost of around $500,000 and the Stanolind Oil and Gas and allied companies have leased their present space in the Philcade for a "substantial" number of years, R. N. Lattner, manager of the Waite Phillips realty properties, announced Saturday

This stood out as the climaxing event of Tulsa Progress week.

The air conditioning installation will be the largest office proximately 320,000 square floor space will be service ation is to start at once pletion for

BETHLEHEM STEEL SELECTS TULSA AS OIL WELL SUPPLY HEADQUARTERS

By long term renewals of their leases for office space, major oil companies are confirming their recognition of Tulsa as the headquarters city of the Oil Industry.

The Stanolind Oil and Gas Company has just signed a long term lease for eight floors in the Philcade building, the largest rental lease in the city's history. From its Tulsa headquarters Stanolind will continue to operate its holdings throughout the Mid-Continent, Gulf Coast and Rocky Mountain areas.

Another long term lease has just been renewed by the Ohio Oil Company, one of the world's largest producers of petroleum. The Ohio retains Tulsa as headquarters for directing its production, refining and marketing operations in the Mid-Continent.

Of interest to the Oil Industry is the recent purchase of the Taubman Supply Company of Tulsa, by the Bethlehem Steel Corporation. Bethlehem has selected Tulsa as headquarters for distributing oil well supplies throughout the Mid-Continent and Gulf Coast areas.

Tulsa's position as the World's Oil Capital becomes stronger with every month. Tulsa, today, is headquarters for more than 400 oil companies and for 54 drilling contractors. In this city is concentrated the greatest purchasing power of the entire Oil Industry.

Business firms considering Tulsa as a location will be interested to know that Tulsa will soon have more air-conditioned office space than any other city of the Southwest. The large Philtower, Philcade and Kennedy buildings are to be completely air-conditioned at a cost of $750,000. Several lower floors of the 23-story National Bank of Tulsa Building are already air-conditioned; and air-conditioning of the remainder of this building is under consideration.

The Tulsa Chamber of Commerce will gladly prepare detailed reports for firms considering Tulsa as a branch office, warehouse, or manufacturing point. There is no obligation. Write today.

KENNEDY ORDERS AIR-CONDITIONING FOR BIG BUILDING

Store Divisions on Ground Floor and 423 Offices Will Be Included

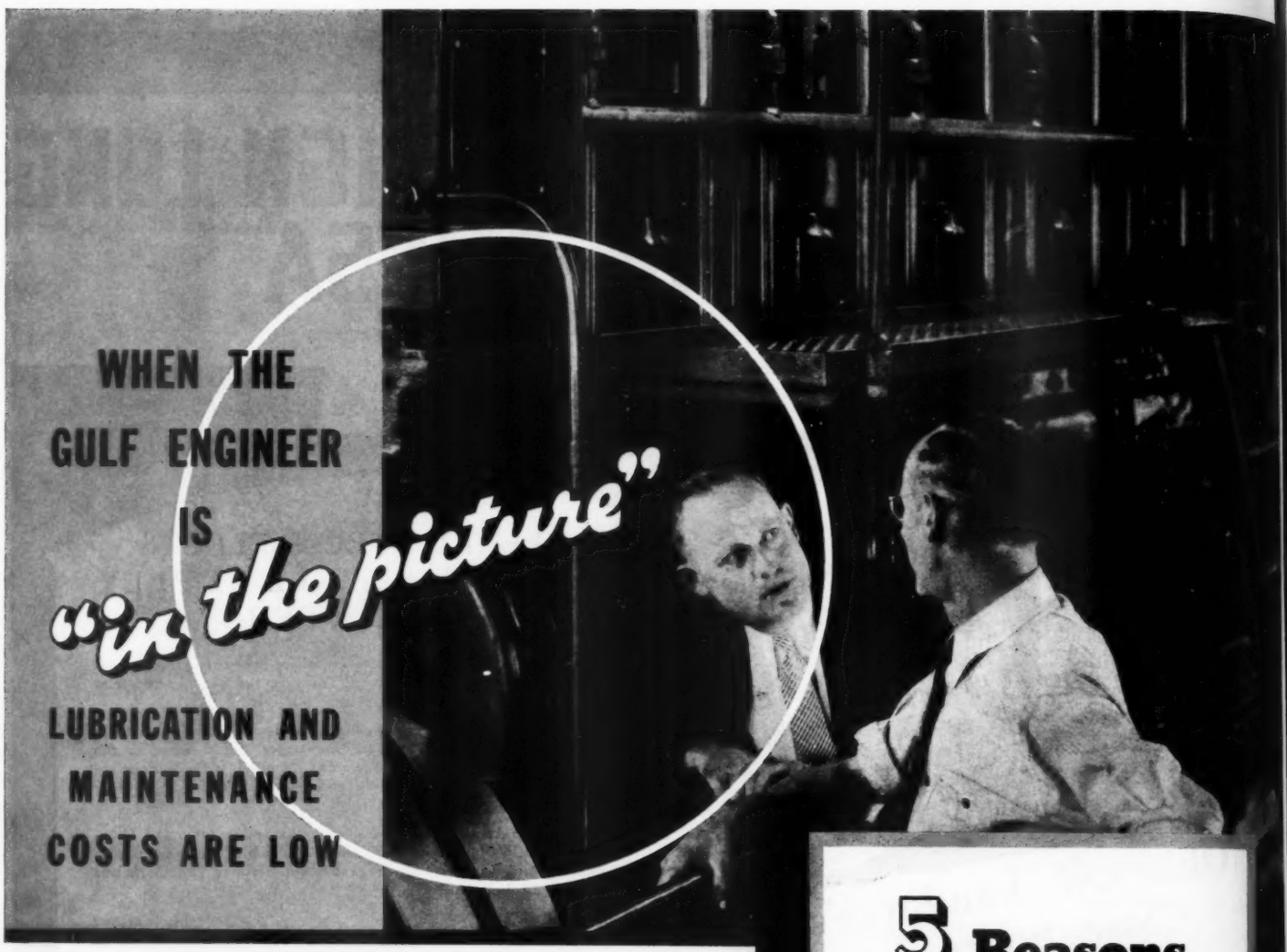
PART OF CONTRACT

National Bank of Tulsa Building Philcade Building Philtower Building Kennedy Building

TULSA

Oil Capital of the World

TULSA WILL LEAD SOUTHWEST IN AIR-CONDITIONING



WHEN THE GULF ENGINEER IS *"in the picture"* LUBRICATION AND MAINTENANCE COSTS ARE LOW

Friendly Cooperation of the Gulf Engineer Contributes to Over-All Operating Efficiency

● There's a big PLUS VALUE in using Gulf Diesel lubricants—a value that often brings savings greater than the cost of the lubricants themselves! It is the cooperative service extended by the Gulf engineer in the plant where the lubricants are used.

This is where the Gulf man feels at home—out in the plant working with the men who keep the engines turning over. He is trained to work tactfully with plant men. He speaks their language—knows the practical side of Diesel engine operation. For his experience covers scores of plants, equipped with many different types of units. His aim is to increase the efficiency of lubrication and to effect savings in over-all operating costs.

Many Diesel operators have found that this service—extended to all users of Gulf lubricants without charge—has helped them make savings far greater than their total annual bill for lubricants.

It is more than likely that the lubrication of *your* equipment can be further improved. A Gulf engineer is always at your service.

5 Reasons

Why Gulf PARVIS OILS Reduce Diesel Operating Costs

1 **GULF PARVIS OILS** are especially manufactured for lubrication of Diesel engines. High temperatures, contamination with fuel and moisture and constant churning in the presence of air—all encountered in Diesel engine operation—necessitate the use of an oil especially prepared to withstand these conditions.

2 **GULF PARVIS OILS** insure minimum wear of cylinders, pistons and bearings. The tough film provided by GULF PARVIS OILS is not readily removed from the cylinder walls and pistons, insuring proper lubrication of these parts at all times.

3 **GULF PARVIS OILS** insure minimum consumption. Because they are made from specially selected crudes and manufactured by the most modern refining methods, GULF PARVIS OILS withstand the high temperatures encountered in Diesel engine operation. A minimum of make-up oil is required.

4 **GULF PARVIS OILS** reduce operating costs. Because of the stability and high lubricating quality of these oils, wear and repair expense are minimized. Lower oil consumption and lower maintenance costs reflect substantial savings in over-all operating costs.

5 **GULF PARVIS OILS** are low in carbon content—a safeguard against carbon deposits resulting from the lubricating oil. With good atomization of fuel and complete combustion, rings retain their freedom. Thus, the oil contributes to full power and operating efficiency.

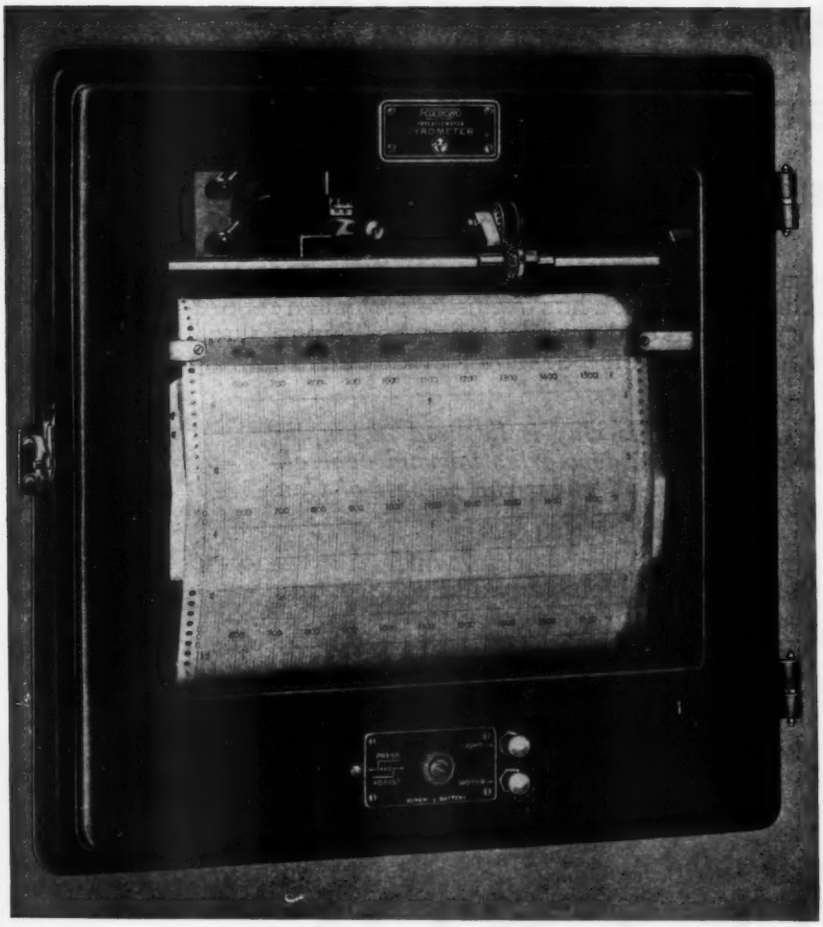
GULF OIL CORPORATION ★ GULF REFINING COMPANY

GENERAL OFFICES: GULF BUILDING, PITTSBURGH, PA.

GULF INDUSTRIAL LUBRICATION

SILENT ACTION..

for accuracy and long life



"Quiet as a mouse" well describes the operation of a Foxboro Pyrometer. This silence in action and minimum wear go hand-in-hand. It assures long life in a recording system which operates at moderate speeds but which gives rapid recording.

Response to thermocouple temperature changes is instantaneous, and the extra compensating slide wire means more uniform sensitivity over the entire scale. Moreover, Foxboro offers a type of record to fit each need — from a single line to 8 individual records on a 12-inch wide chart.

All the advantages of this modern Potentiometer Pyrometer Recorder are given in detail in Bulletin 190-1. A copy is freely offered. The Foxboro Company, 60 Neponset Ave., Foxboro, Mass., U.S.A. Branches in 25 Principal Cities.

FOXBORO

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PYROMETER RECORDERS

RESPONSE · ACCURACY

DEPARTMENT OF GEOGRAPHY
THE UNIVERSITY OF NEBRASKA

PROTECTING
PETROLEUM REFINERS

WITH A VALUABLE LICENSE RELATING TO DECOLORIZATION, CLARIFICATION OR NEUTRALIZATION

Every Petroleum Refiner who purchases Acid Activated Clay produced by Filtrol Corporation has exclusive protection regarding its use. It is produced and packed under the "Super Filtrol" brand and the marking on the package includes the following assuring message:

> ***"The purchaser of this clay is licensed to employ it in the clarification, decolorization and neutralization of petroleum oil under the patents of Contact Filtration Company."***

This important and valuable license right which is extended to Petroleum Refiners does not involve any additional charge whatsoever . . . The established price of Super Filtrol remains unchanged regardless of this service.

Those interested are invited to make inquiry relative to their requirements and receive the benefit of the broad technical experience of our staff.

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